Salt Lake Community College

# Board of Trustees – June 12, 2024, 8:00 a.m.

**The SLCC Board of Trustees will convene for a Board of Trustees Meeting on June 12, 2024 at 8:00 a.m. at 4600 South Redwood Road, Taylorsville, Utah in AAB 428**

Meeting to be conducted by Brady Southwick, Chair

- **Executive Session is not anticipated in connection with this meeting.**

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| I. | **BOARD BUSINESS: Brady Southwick, Chair** | | |
| | A. Student Stories: Savannah Lad | | |
| | B. Oath of Office – new SLCCSA President, Trustee Nahomi Rei | | |
| | C. Special Election of Board Chair and Vice Chair Positions | | |
| | D. Approval of FY25 Meeting Schedule | TAB A | |
| | E. Mission Fulfillment Committee Report – Jessie Winitzky-Stephens, Director for Strategic Analysis & Accreditation | TAB B | |
| II. | **CONSENT CALENDAR:**<br>It is the recommendation of the Chair that the Board approve the following items on the Consent Calendar: | | |
| | A. **Executive Session**: Approval to hold an Executive Session or Sessions in connection with the meeting of the SLCC Board of Trustees to be held August 14, 2024 to consider matters permitted by the Utah Open and Public Meetings Act. | | |
| | B. **Minutes of Previous Meeting** | TAB C | |
| | C. **Personnel Report** | TAB D | |
| | D. **Government Funding Report** | TAB E | |
| | E. **Investment Report** | TAB F | |
| | F. **Interim Financial Report** | TAB G | |
| | G. **Cash Flow Report** | TAB H | |
| | H. **Annual Surplus Property Report** | TAB I | |
| III. | **PRESIDENT'S REPORT:** | | |
| | A. President's Report – Acting President Jason Pickavance<br>1. INFORMATION: Presidential Transition<br>2. INFORMATION: Commencement and Prison Education Program Graduation follow-up<br>3. INFORMATION: Athletics Update | | |
| | B. Student Life & Leadership Report – Trustee Nahomi Rei | | |
| | C. Academic Affairs Report – Interim Provost Jason Pickavance<br>1. ACTION: Academic Curriculum Changes: | | |
| | • New Commercial Music (CTE)(AAS)<br>Discontinue Music Recording Technology (AAS)<br>Discontinue Media Music (AAS) | TAB J | |
| | • New Earth and Environmental Science (AS) consolidation<br>Discontinue Atmospherics Science (AS)<br>Discontinue Geographic Information Science (AS)<br>Discontinue Geology (AS) | TAB K | |
| | • Substantive revision and name change Drones & GIS (AAS) was Geospatial Technology (AAS) | TAB L | |
| | • Substantive revision Automation Technology (SLTC) curriculum alignment and title change | TAB M | |

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|---|---|---|---|
| | Substantive revision Robotics Technology (SLTC) curriculum alignment and title change<br>Substantively revised Electronics Assembly Technology (SLTC) (CA) USHE tech align<br>• Discontinue Energy Management (AAS) degree<br>• Consolidate Micro-/Nanotechnology certificate<br>• Power Equipment and Motorcycle Technology – substantively revised; moved to SLTC certificate | **TAB N**<br>**TAB O**<br>**TAB P** | |
| | D. Finance & Administration Report – VP Chris Martin<br>1. INFORMATION: Annual IT Report (GUEST: Casey Moore)<br>2. ACTION: Emergency Management Policy (2nd Read)<br>3. ACTION: Tuition Benefits Policy (2nd Read)<br>4. ACTION: Drug and Alcohol-Free Workplace Policy (2nd Read)<br>5. INFORMATION: Conflict of Interest Policy (1st Read)<br>6. INFORMATION: Weapons Policy (1st Read)<br>7. INFORMATION: Background Checks Policy (1st Read)<br>8. INFORMATION: Employment of Relatives Policy (1st Read) | **TAB Q**<br>**TAB R**<br>**TAB S**<br>**TAB T**<br>**TAB U**<br>**TAB V**<br>**TAB W** | |
| | E. Campus-based & Constituents Reports:<br>1. INFORMATION: Staff Association Report – Brandi Mair, Staff Association President | | |
| IV. | **ADJOURNMENT:** | | |

*In compliance with the Americans with Disabilities Act, individuals needing special accommodations (including auxiliary communicative aids and services) during this meeting should notify the ADA Coordinator, at 801-957-4041, at least three working days prior to the meeting.*

**Calendar of Important Events:**

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| Board of Trustees Meeting (not confirmed) | Wednesday, August 14, 2024<br>8-10:30am | Taylorsville/Redwood Campus AAB 428 |
| Convocation 2024 | Monday, August 19<br>8am-3pm | Taylorsville/Redwood Campus LAC |
| Gail Miller Utah Leadership Golf Tournament | Monday, September 9, 2024<br>8am-2pm | Hidden Valley Country Club |
| Board of Trustees Retreat (not confirmed) | Wednesday, September 11, 2024<br>TBD | TBD |
| Board of Trustees Meeting (not confirmed) | Wednesday, October 9, 2024<br>8-10:30am | Taylorsville/Redwood Campus AAB 428 |
| President's Art Show Reception | Tuesday, October 29, 2024<br>6-8pm | South City Campus |
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# TAB A

Salt Lake Community College

## SLCC Board of Trustees
## 2024-25 Meeting Schedule

The following schedule was approved at the June 12, 2024 Salt Lake Community College Board of Trustees meeting. Board meetings will begin at 8:00 a.m. and be held at the Taylorsville Redwood Campus (AAB 428) unless specified otherwise. Meetings are generally held the second Wednesday of each month except for July, September, December, and May.



**August 14, 2024**

**September 11, 2024****
*Retreat (Tentative)*

**October 9, 2024**

**November 6, 2024***
*(Moved to week earlier because of possible conflict for president)*

**December 10, 11, 12 2024****
*Holiday Social (Tentative)*

**January 8, 2025**

**February 19, 2025***
*(Moved to week later for ACCT Nat'l Legislative Summit)*

**March 12, 2025**

**April 9, 2025**

**May 7, 2025****
*Evening of Honor (Tentative)*

**May 9, 2025**
*Commencement (Tentative)*

**June 11, 2025**

*Departure from the usual schedule
**By invitation only

TAB B


# TRANSFER EDUCATION

## Mission Fulfillment Assessment

Jessie Winitzky-Stephens, Ph.D.

27 March 2024

# Contents

## Executive summary

- The Board of Trustees determined Salt Lake Community College is effectively meeting its transfer education mission
- The college will continue to strengthen partnerships with USHE and transfer partners to ease transfer pathways for students
- The college will continue to pursue a data sharing agreement with the University of Utah to better understand student outcomes post-transfer

## Overview

Salt Lake Community College serves as an entry point to higher education for many students in Salt Lake County, including those from underserved communities and non-traditional student demographics. By offering transfer education, we aim to broaden access to bachelor's degree programs, enabling students to embark on their educational journeys without the barriers often associated with traditional four-year institutions. In addition, the majority of our degree-seeking students tell us their ultimate goal is to earn a bachelor's degree. Thus, our goals must include helping students complete not just at SLCC, but at their future institution as well.

The transfer education core theme has a single overarching objective:

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*Prepare students with a foundation for success in continued studies.*

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In this report, we describe the board's findings from the previous holistic assessment, outline a brief introduction to the meaning of transfer success, detail specific data brought to the board, and the board's final assessment of SLCC's fulfillment of its transfer mission.

## Prior assessment

The board completed the last holistic mission fulfillment assessment in 2019. At that time, they found Salt Lake Community College successfully achieves its transfer mission. However, recognizing the potential for further improvement, trustees advised SLCC to prioritize collaboration with the Utah System of Higher Education (USHE) in order to establish statewide program-level articulation. In the interim, trustees advised concentrating efforts on strengthening relationships with transfer partners to facilitate smoother articulation for students.

Four USHE policies are currently undergoing substantial revisions, poised to exert a significant impact on the transfer process. While these revisions hold promise for improving outcomes for our students, their implementation is pending and their effect will not be felt for some time.

We have maintained close collaboration with our primary transfer partner, the University of Utah, on multiple fronts. Specifically, the Division of Institutional Effectiveness has worked directly with our university peers to devise strategies for data sharing aimed at benefiting our shared student body. Preliminary insights regarding transferred students have been provided by the University of Utah, and efforts are underway to formalize a data-sharing agreement to augment our understanding of student outcomes post-transfer.

An additional collaborative initiative with the University of Utah resulted in the establishment of a shared 2+2 campus in Herriman, which commenced operations in August. This campus is unique in that students can attend both institutions, completing their associate and bachelor's degrees, at a single location.

The landscape of student transfer in Utah has undergone significant evolution over the past four years. As such, we have new data and metrics to provide context and understanding for how well SLCC fulfills its transfer education mission.

## What is transfer success?

Prior to sharing specific data and metrics, it is important to establish a clear understanding of what we mean when we characterize a transfer student or transfer process as "successful."

The first element is academic preparedness. Ensuring the academic rigor of our programs and course offerings is critical to adequately equip students for seamless transition to a four-year institution. Alignment of course content and curricular requirements mitigates knowledge gaps and facilitates progression into advanced coursework. Evaluation of student performance post-transfer serves as a tangible metric in assessing SLCC's ability to prepare students academically.

Second, we must consider social and psychological readiness. As an open enrollment institution, many of our students are the first in their families to attend college, and are more likely to lack familiarity with the intricacies of higher education processes. Higher education has its own culture and language that can be complex and intimidating, particularly for first-generation students. Community colleges play a pivotal role as purveyors of comprehensive guidance and support, providing students with the requisite skills and confidence to navigate the college landscape adeptly. The promptness of transfer, indicative of eagerness and preparedness, alongside post-transfer performance, serves as evaluative metrics for social and psychological preparation.

The third cornerstone of transfer success hinges upon credit articulation: the ability of credits accumulated in one institution to count toward major requirements at the subsequent institution. Alignment between associate-level programs and their corresponding bachelor-level counterparts is imperative to afford students a seamless transition, ideally with junior standing upon matriculation at a university. Minimizing credit loss during the transfer process is imperative so that students' time, effort, and financial resources are not wasted. An inability to articulate credits and align programs is not only inefficient, it also exacerbates financial burdens, particularly for financial aid-eligible students. Metrics such as time to degree completion post-transfer and the fidelity of credit transfer provide insights into the health of these transfer partnerships.

Collectively, success across these three domains constitutes the yardstick for gauging our transfer education mission fulfillment. It is noteworthy that the availability of pertinent data crucial for performance evaluation often hinges upon collaborative efforts with our transfer partners. Limited direct access to such data poses a challenge. Collaborative endeavors with the University of Utah have yielded preliminary data, underscoring the significance of bilateral partnerships in augmenting our evaluative capabilities. Furthermore, ongoing efforts to formalize data-sharing agreements are underway, with the aim of fortifying our analytical resources. While such partnerships are invaluable, a system-wide solution would be ideal. Encouragingly, indications from the Utah System of Higher Education (USHE) suggest an appetite for this type of sharing, though it is

not currently a focal point. As trustees, leveraging influence to advocate for prioritizing systemic solutions within the USHE framework is paramount in advancing our transfer objectives.

## Analysis

In conducting this report, three primary sources of data were utilized to comprehensively assess the landscape of transfer education at our institution. First, data sourced from our own institutional data warehouse provided invaluable insights into the academic trajectories and outcomes of our students, enabling us to track their progress over time and evaluate key metrics such as completion rates and transfer trends. Second, collaboration with the University of Utah yielded additional data regarding our students' experiences post-transfer, enriching our understanding of their performance and success at four-year institutions. This collaborative effort facilitated a more holistic analysis of transfer outcomes and informs strategic initiatives aimed at enhancing student pathways. Finally, benchmarked data obtained from the Voluntary Framework of Accountability offered comparative insights into our institution's performance relative to peer institutions, enabling us to contextualize our findings within the broader landscape of community college transfer education. By triangulating data from these diverse sources, we have provided a robust analysis of transfer education at our institution and enabled trustees to evaluate fulfillment of this mission and to inform evidence-based decision-making to support student success and institutional effectiveness.

### SLCC findings

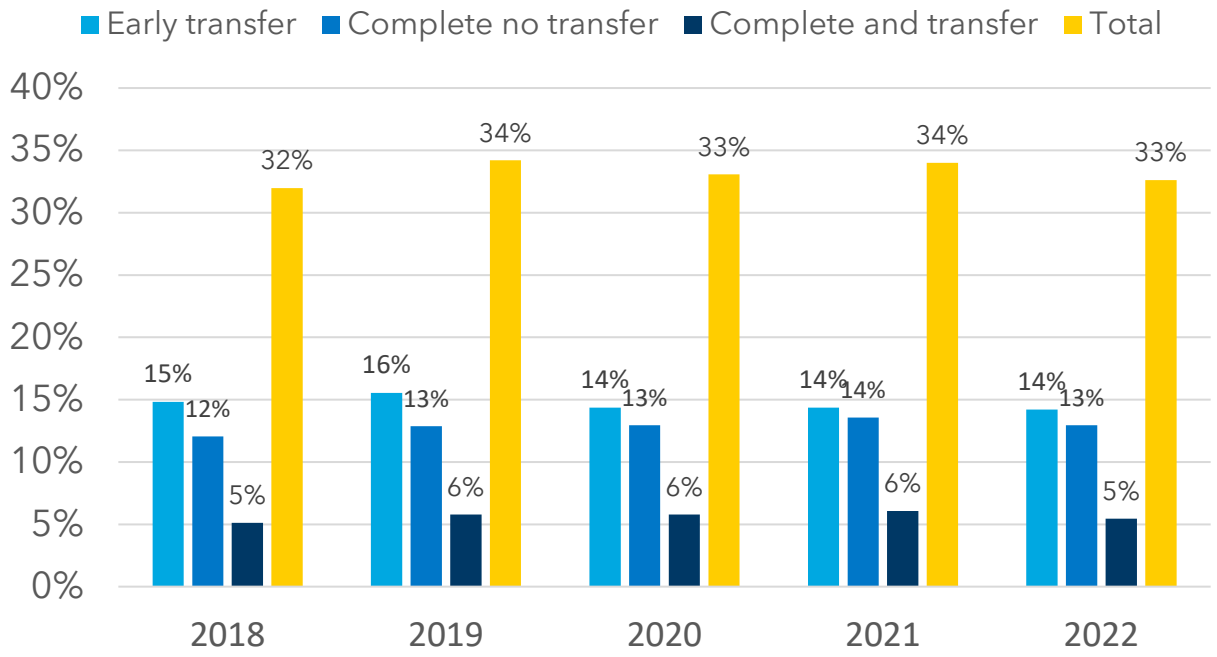
We have rich data and comprehensive insights into the trajectories of our own students. Leveraging the expertise of our Data Science & Analytics team, we have developed an interactive dashboard designed to consolidate and visualize our transfer metrics. This dynamic tool offers a holistic overview of cohort composition and outcomes over the past ten years, facilitating nuanced analyses of student progression on a term-to-term basis.

The dashboard presents a variety of pertinent metrics, including enrollment figures, retention rates from one semester to the next, instances of stop-outs, transfers, and completions. The interface is further enhanced with interactive features, allowing for disaggregated analyses through user-friendly pull-down menus. By harnessing these functionalities, we can elucidate the destinations of our students and discern critical points of transition within their academic journeys.

Drawing from the insights gleaned from our dashboard, we can offer pertinent observations. Over the past five years, approximately one-third of students departing after the Spring semester have either completed their credentials, transferred to another institution, or achieved both milestones.

Specifically, in the Spring of 2022 (see Figure 1), 14% of departing students transferred prior to credential completion, while 13% completed their credentials without transferring, and 5% both completed their credentials and transferred. While we consider early transfer and completion without transfer as successful outcomes, it is our preference for students to complete an associate degree then transfer to complete their bachelor's. Our institutional frameworks are optimized, at least in theory, to facilitate the completion of associate degrees followed by seamless transfer to a baccalaureate-granting institution. Thus, we should refine our systems, programs, and partnerships to bolster rates of both completion and transfer, thereby maximizing opportunities for our students' academic advancement.

*Figure 1: Exiting Student Cohort, 2018-2022 (Spring)*




## Preliminary University of Utah findings

The insights derived from the data shared by the University of Utah affirm our institution's efficacy in preparing students for successful transitions. Noteworthy highlights from the analysis include:

- SLCC students transferring to the University of Utah exhibit a higher likelihood of earning an associate degree prior to transfer when compared to counterparts from other institutions. While our internal data indicate a modest proportion of students achieving this milestone each semester, our performance is high relative to other institutions.
- SLCC transfer students arrive at the University of Utah with a higher GPA in comparison to their peers from other institutions. As an avenue for further inquiry, we would welcome investigation to understand how these GPAs change during their initial semester at the University of Utah.
- An impressive 80% of SLCC transfer students retain at the University of Utah in the subsequent academic year, and 60% successfully complete a bachelor's degree within four years—a notably higher rate than observed among transfer students from other institutions. These outcomes underscore the efficacy of our academic preparation initiatives and the seamless articulation of credits earned at SLCC.

Despite the promising insights gleaned thus far, our endeavors are still in their early stages. Moving forward, ongoing dialogue and collaboration with our counterparts at the University of Utah remain integral to our mutual objectives. We will continue to refine our metrics as we strive towards establishing a comprehensive data-sharing agreement with the University of Utah. Ultimately, we aim to develop of a shared dashboard and reporting mechanism, consolidating all pertinent metrics to afford both institutions a comprehensive overview of our transfer partnership's health and efficacy.

## Benchmarking

The Voluntary Framework of Accountability (VFA) serves as a comprehensive national accountability system designed specifically for community colleges. This framework offers an array of metrics to assess progress and outcomes, including several pertinent to transfer education. Notably, the VFA offers users the flexibility to select comparison institutions based on shared characteristics such as size, urbanicity, and student demographics, thereby enabling a more tailored and meaningful assessment of institutional performance. For this analysis, we limited the comparison institutions to other large (at least 20,000 students) urban/suburban community colleges.

Among the transfer metrics available for examination within the VFA are the overall transfer-out rate, measuring the proportion of students transferring to another institution within six years of enrollment; the transfer with award rate, indicating the proportion of students completing a credential before transferring within the same timeframe; and the transfer without award rate, which assesses the proportion of students transferring early.

It is important to note the absence of data pertaining to student performance post-transfer, such as bachelor's degree conversion rates, within the VFA framework. As such, supplementary data sources and collaborative partnerships, such as those with institutions like the University of Utah, remain critical in informing comprehensive analyses and decision-making processes.

### All success

The VFA utilizes cohort-based metrics: these indicators include all students who first enrolled at SLCC within a specific year, then track outcomes over a span of six years. At the culmination of this period, the proportion of students who have completed a credential, transferred to another institution, or both, is calculated.[1]

[1] On the x-axis of these graphs, two numbers are presented. The figure on the bottom, enclosed in parentheses, denotes the year students first enrolled at SLCC. The number positioned above it signifies the measurement point six years later. Thus, the most recent data available is for students who began attending SLCC in 2016 and their outcomes as of 2023.

*Figure 2: Six-year completion and transfer outcomes for first-time students, 2014-2023*

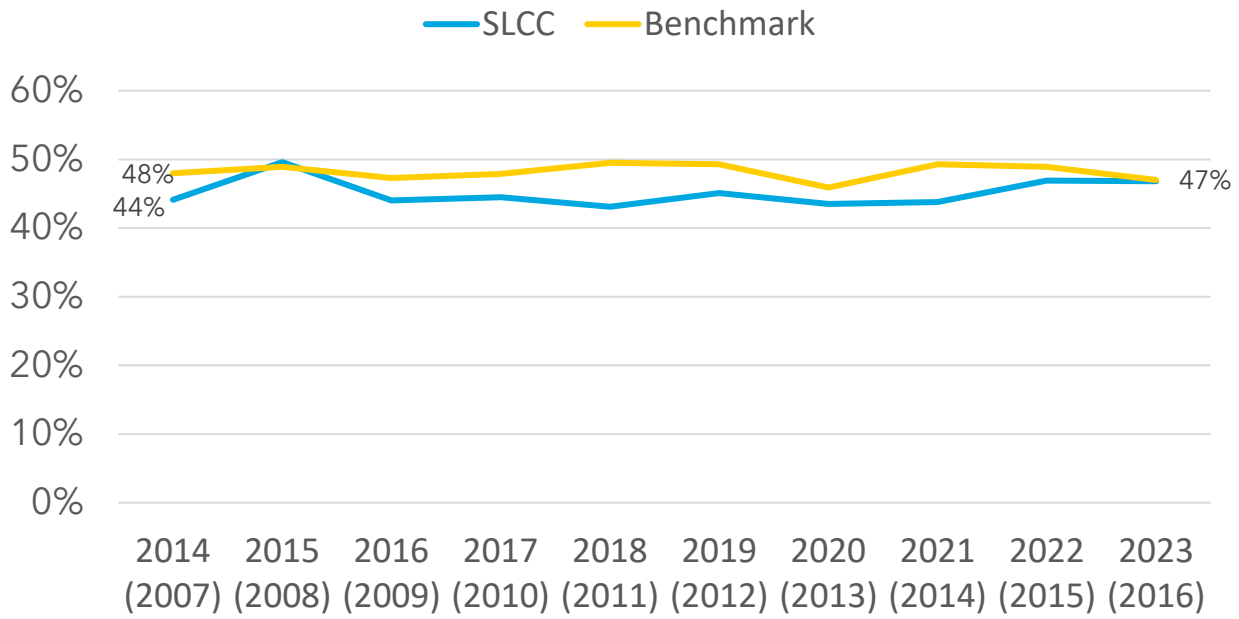


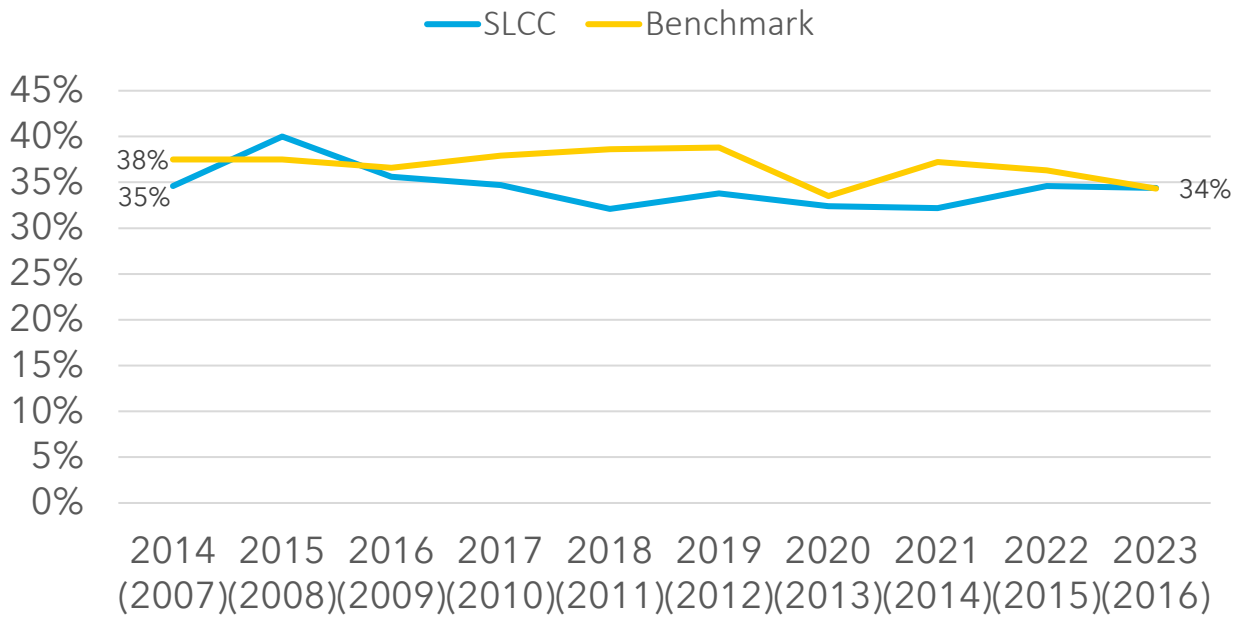

Figure 2 portrays the proportion of students who have either completed their credential, transferred to another institution, or accomplished both milestones within six years of first enrolling at SLCC. While our institution's performance slightly trails that of our peers over much of the specified time period, the difference is slight. Moreover, SLCC and our peers converge by the end of the space, with SLCC's performance improving by three percentage points and our peer institutions declining slightly. These trends suggest SLCC is effectively keeping pace with comparable institutions.

### Transfer-out rate

The transfer-out rate focuses specifically on the transfer aspect of student outcomes (Figure 3). It denotes the proportion of students who transfer to another institution within six years of enrolling at SLCC. Our performance in transfer outcomes exhibits a comparable trajectory to that observed in the overall student success metric discussed previously.

Over the past decade, our institution has consistently trailed slightly behind our peer institutions in terms of transfer rates. However, in the most recent year, SLCC has managed to narrow this gap and align more closely with our peers. While there was a decline in transfer rates for both SLCC and our peers since 2014, this trend has been less pronounced at SLCC. Particularly noteworthy is the relatively smaller decrease observed at SLCC in 2020 relative to our peer institutions. It is unknown at this time why we did not experience a similar drop, but it may explain some of why we recovered more quickly than our peers.

*Figure 3: Six-year transfer outcomes for first-time students, 2014-2023*




## Transfer with/without award rate

Figure 4 shows students who complete an award before transitioning to a four-year institution. Recall this scenario epitomizes our preferred pathway for students enrolled in associate degree programs: completing a credential at SLCC prior to transferring. Upon analysis, it becomes evident that our institution excels in this regard compared to our peers.

Consistently outperforming our counterparts by several percentage points, SLCC has established a commendable track record in facilitating credential completion prior to transfer. Moreover, the disparity between SLCC and peer institutions has widened over time, with SLCC seven percentage points higher than our peers in 2023. This trend indicates our institution is preparing students adequately for their subsequent academic endeavors, thereby positioning them for success in their educational pursuits beyond SLCC.

*Figure 4: Six-year transfer-with-award rate for first-time students 2014-2023*

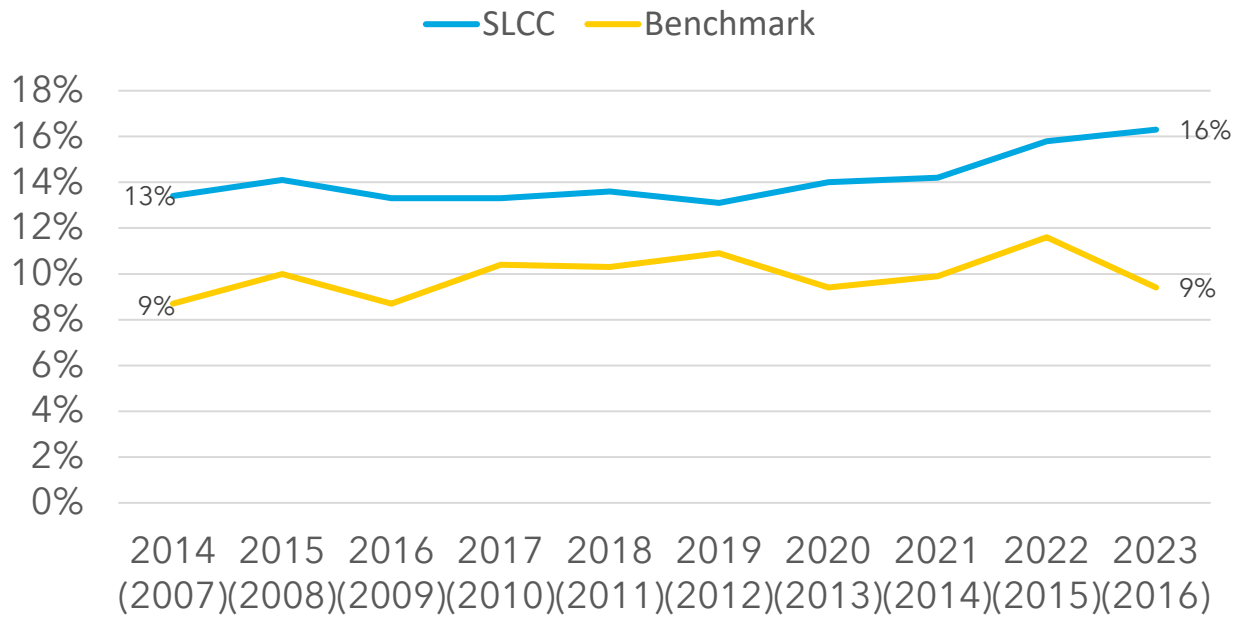
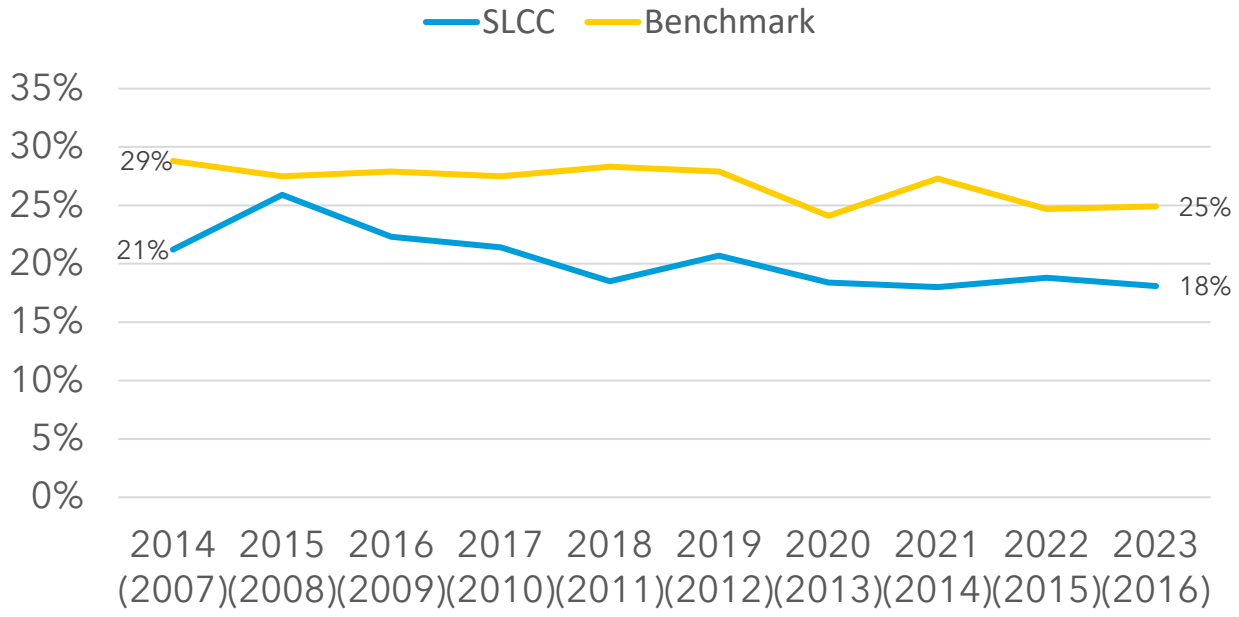



Figure 5 depicts the final data point in this transfer analysis. It is the inverse of the Figure 4, indicating the proportion of students who transfer early to another institution. Notably, our institution demonstrates fewer instances of early transfer compared to other institutions, with this figure showing a decreasing trend. The overall proportion of SLCC's transfer students has remained stable, and our transfer-out rate is comparable to other institutions. Consequently, there is no cause for alarm regarding this decrease. Rather, it signifies a positive shift wherein more of our students are completing a credential before pursuing further education at another institution.

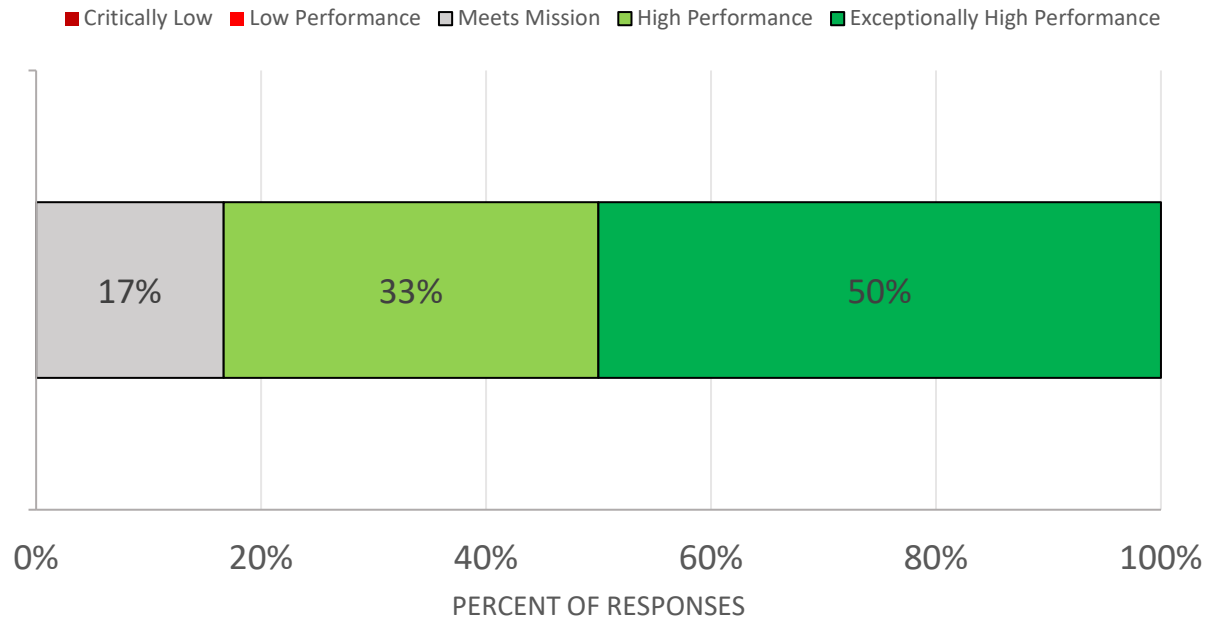
*Figure 5: Six-year transfer-without-award rate for first-time students, 2014-2023*



## Board Scoring of Objective D

After reviewing the data presented, board members submitted individual assessments. They unanimously confirmed SLCC fulfills its transfer mission, with 83% of trustees asserting college performance exceeds the minimum threshold, and half describing SLCC performance with regard to transfer as "exceptionally high."

*Figure 6: Board of Trustees assessment of SLCC transfer mission*



# TAB C

## Board of Trustees Meeting MINUTES

| April 17, 2024 | Taylorsville/Redwood Campus<br>AAB 428 | 8:00 a.m. |
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| **Trustee Attendance:** | Chair Brady Southwick, Vice Chair Lori Chillingworth, Trustees Kim Wilson, Coralie Alder, Nate Boyer, Sunny Washington, Joyce Wambuyi, Tashelle Wright and President Deneece Huftalin |
| **Excused:** | Trustees Yvette Donosso, Starr Fowler |
| **Guests:** | USHE Commissioner, Geoff Landward; SLCCSA President Elect Nahomi Rei; Faculty Senate President Elect, Gabe Byars; Faculty Association President Elect Rachel Marcial |
| **Internal:** | Executive Cabinet Members: Interim Provost Jason Pickavance, VP Chris Martin, Finance and Administration/CFO, VP Brett Perozzi, Student Affairs and Enrollment Management, VP Abby McNulty, Institutional Advancement, VP Leonel Nieto, Institutional Effectiveness, VP Juone Kadiri, Institutional Equity, Inclusion and Transformation<br><br>SLCC Representatives: Faculty Senate President, Adam Dastrup, Faculty Association President, Kristen Taylor, Staff Association President, Brandi Mair, Legal Counsel, Chris Lacombe, Executive Assistant to the President and Secretary to the Board of Trustees, Sandra Lehman, OIT Support, Laif Erickson |

| | AGENDA ITEM | DISCUSSION SUMMARY AND ACTION |
|---|---|---|
| **I.** | **BOARD BUSINESS**: Brady Southwick, Chair | Chair Southwick welcomed everyone and congratulated Commissioner Landward on being appointed Commissioner for the Utah System of Higher Education. |
| | A. Farewell to President Huftalin | Chair Southwick announced that this is a historic meeting. It is President Huftalin's last meeting, and the last meeting for Trustee Joyce Wambuyi, Faculty Senate President Adam Dastrup and Faculty Association President Kristen Taylor. He expressed his appreciation to President Huftalin for always putting SLCC first and not making the role as president about her or what served her but instead always about what benefitted SLCC, it's students, and the Mission, Vision and Values for so many years. She had an immense impact. He thanked her and presented her with a gift from the board – a painting that she loves that has been in her office and was painted by a student and a framed Wallace Stegner quote. President Huftalin thanked everyone and said that it is also Chair Southwick birthday today; everyone sang "*Happy Birthday*" to him. |
| | B. Farewell to SLCCSA President & Trustee Joyce Wambuyi, Faculty Senate President | Chair Southwick thanked Trustee Joyce Wambuyi for her service as the SLCCSA President and |

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| | Adam Dastrup and Faculty Association President Kristen Taylor<br>C. Welcome New SLCCSA President Nahomi Rei, Faculty Senate President Gabe Byars and Faculty Association President Rachel Marcial | Adam Dastrup and Kristen Taylor as Presidents of Faculty Senate and Faculty Association. He presented each of them with a gift of a Rob Adamson print. He welcomed incoming Faculty Association President Rachel Marcial and Faculty Senate President Gabe Byars. |
| | D. Presidential Seach Update: Chair Southwick | Chair Southwick said that a press release is anticipated to go out this morning announcing the three finalist candidates interviewing to be the next SLCC president. He reviewed the recruiting and search process that included a search committee and national search firm. He said that the finalists will be interviewing April 24-26 with SLCC constituent groups, other USHE Presidents, and the Utah Board of Higher Education. He is pleased with the search process and said it was engaging and robust. He invited Staff Association President Brandi Mair and Interim Provost Jason Pickavance who also served on the search committee to comment. Ms. Mair indicated it was a good experience and she learned a lot through the process; Interim Provost Pickavance added that he was impressed with the care that the Board of Trustees and Board of Higher Education took to deliver the best candidate pool. Vice Chair Chillingworth provided more information about the on-campus interview process and encouraged everyone to be actively engaged and provide feedback. |
| | E. Audit Committee Report: Trustee Kim R. Wilson, Chair; Trustees Chillingworth, Alder and Washington | Trustee Wilson commended the outstanding internal audit staff. He and Chair Southwick met with Internal Audit Director Travis Lansing and made the official annual report to USHE. He said that it was a positive report that is comprehensive and was well received. He and the BOT members appreciate the competence and level of work involved in producing the report. UBHE member Marriott indicated to him that she is comfortable and confident about the way SLCC is operating. |
| **II.** | **CONSENT CALENDAR:**<br>It is the recommendation of the Chair that the Board approve the following items on the Consent Calendar: | |
| | A. **Executive Session**: Approval to hold an Executive Session or Sessions in connection with the meeting of the SLCC Board of Trustees to be held June 12, 2023 to consider matters permitted by the Utah Open and Public Meetings Act. | Chair Southwick reviewed items in the Consent Calendar for consideration. **Trustee Wilson moved to approve; Trustee Chillingworth seconded the motion that carried unanimously.** |
| | B. Minutes from the previous meeting on March 13, 2024 | |
| | C. Personnel Report | |
| | D. Government Funding Report-Major Grants Requested/Received | |

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| | E. Investment Report | |
| | F. Interim Financial Report | |
| | G. Cash Flow Report | |
| **III.** | **PRESIDENT'S REPORT: Dr. Deneece Huftalin, President** | |
| | A. Presidents Report – President Deneece Huftalin<br>1. INFORMATION: Evening of Honor, Commencement<br>2. INFORMATION: USHE tuition and fees update | President Huftalin reminded everyone that it is the time of year for celebrations. Board members are invited to the Evening of Honor to celebrate everyone being recognized. Friday, May 3rd is Commencement at the Maverik Center. Chair Southwick said if any trustee has not been to Commencement before, they should, it is such a good experience. He is always touched by the diverse student body who work so hard to obtain their degree and better their lives. President Huftalin also shared that she and Chair Southwick presented the good work of budget office and student fee board to USHE and the Board of Higher Education. She explained that the process was different this year, and it was not fully understood what was expected. The fees that were recommended by the student fee board and budget office and that were approved by trustees needed to be adjusted down and will now be $9.50. She wanted trustees to be aware of the change. |
| | B. Student Life & Leadership Report – Trustee Joyce Wambuyi<br>1. INFORMATION: Introduce new SLCC President, Nahomi Rei | Trustee Wambuyi introduced the new SLCCSA President, Nahomi Rei and asked her to introduce herself. Ms. Rei provided some background information and what she is studying. She is excited to be taking over the work Trustee Wambuyi has started. Trustee Wambuyi said that they are currently wrapping up the initiatives they have been working on and the transition to a new student leadership team. She thanked the board for their support and for listening to her and allowing her the space to share her experiences. She thanked President Huftalin for her support and leadership. Trustee Chillingworth added that Trustee Wambuyi was an integral part of the search for a new president as a search committee member representing students and thanked her. |
| | C. Finance & Administration Report – VP Chris Martin<br>1. ACTION: Staff Development Leave Policy (2nd Read)<br>2. INFORMATION: Emergency Management Policy (1st Read)<br>3. INFORMATION: Tuition Benefits Policy (1st Read)<br>4. INFORMATION: Drug and Alcohol-Free Workplace Policy (1st Read) | VP Martin reviewed the Staff Development Policy trustees have for a 2nd reading. **Trustee Chillingworth moved to approve the policy as presented. Trustee Alder seconded the motion that carried unanimously.** He also provided information on four more policies that trustees have for a 1st reading – the Emergency Management Policy, Tuition Benefits Policy, Drug and Alcohol-Free Workplace Policy and the Employee ADA Access and Reasonable |

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|---|---|---|
| | 5. INFORMATION: Employee ADA Access and Reasonable Accommodation Policy (1st Read) | Accommodation Policy. He asked that all be moved to the June agenda for a 2nd reading and possible approval except the Employee ADA Access and Reasonable Accommodation Policy. He reminded trustees that they approved the Student ADA Access and Reasonable Accommodations Policy at the March meeting. It and the employee related policy were separated and have gone through significant review and changes. President Huftalin explained that since they were separated and the student related policy has already been approved, it would be helpful if the Employee ADA Access and Reasonable Accommodation Policy could be considered for approval sooner than bringing it back for a 2nd read in June. The request is to review it over the next week and Sandra Lehman will call for an electronic vote on whether the trustees approve the policy via email on April 24. Trustees approved exception to the process for handling the policy and will watch for the email from Sandra to vote whether they approve the policy. The other three policies will move to the June 12 agenda for 2nd read and consideration for approval. |
| | D. Institutional Effectiveness Report – Interim VP Leonel Nieto<br>1. INFORMATION: Performance funding metrics status update | Interim VP Nieto provided a Performance Funding Summary. President Huftalin said that the USHE fiscal analysist has asked for feedback on performance metrics and if anything should change. She said the information Interim VP Nieto is reporting on today may change. She explained that it was a difficult budget process this year and there is hardly any new money which makes it difficult to balance needs with funding that is received. Discussion about what was received and was not followed. Interim VP Nieto reviewed key initiatives and the plan moving forward. Trustees would like to know the total applicants for high-yield programs and if all are being admitted with a breakdown of areas and trades. Interim Provost Pickavance shared more information about what is happening in the health sciences and nursing programs and said that he and Interim VP Nieto plan to spend time this summer reviewing high yield programs. |
| | E. Academic Affairs Report – Interim Provost Jason Pickavance<br>1. ACTION: Curriculum Changes:<br>a) VAD: Fine Arts (AS)<br>b) New Commercial Music (CTE)(AAS)<br>c) New Behavioral Health Technician (CP) | Interim Provost Pickavance explained the proposed curriculum changes and reasons for the changes. He recommends tabling the New Commercial Music (CTE)(AAS) until peer review has happened. **Trustee Kim Wilson moved to TABLE the New Commercial Music (CTE)(AAS) and APPROVE the following curriculum changes:**<br>1. VAD: Fine Arts (AS) |

| | | |
|---|---|---|
| | d) New Substance Use Disorder Counselor (CP)<br>2. ACTION: Copyright Ownership and Intellectual Property Policy (2nd Read)<br>3. ACTION: Faculty Senate Policy (2nd Read) | 2. New Behavioral Health Technician (CP) and<br>3. New Substance Use Disorder Counselor (CP)<br>**The motion was seconded by Trustee Tashelle Wright and carried unanimously.**<br><br>Interim Provost Pickavance explained changes to Copyright Ownership and Intellectual Property Policy (2nd read). **Trustee Alder moved to approve; Trustee Wambuyi seconded the motion. The motion carried unanimously.** He also explained that the Faculty Senate Policy that trustees have for a 2nd reading and approval. **Trustee Chillingworth moved to approve the policy as presented; Trustee Wambuyi seconded the motion that carried unanimously.** |
| | F. Campus-based & Constituents Report:<br>1. INFORMATION: Faculty Association Report, President Kristen Taylor | Kristen Taylor announced that the Faculty Association Bylaws were finalized and ratified as well as Staff Association Bylaws. Elections have closed and they will be announcing board members. Rachel Marcial will be the new president. Faculty Senate elections are this week and there are still some vacancies. Gabe Byars is expected to be the new Faculty Senate President. She provided information for Faculty Appreciation Days designed to help combat faculty burnout. She thanked General Counsel Chris Lacombe for the legal assistance and support he has provided to them. She also thanked President Huftalin for her work and for having Interim Provost Pickavance remain in that position to help provide consistency during the transition and changes that will be coming. She thanked the trustees for the intense work they do for the institution. Faculty Senate President Adam Dastrup thanked Ms. Taylor for all the work that was accomplished over the past year under her leadership. President Huftalin said that COVID changed the way people work and leadership matters. She said SLCC has solid leadership who work for the benefit of students and the difference is apparent when it is not available. Shifting back to in-person collaboration and work has made a difference in how leaders and everyone is engaged. She thanked them all for their leadership and the work they do. |
| **IV.** | **ADJOURNMENT:** | Chair Southwick thanked everyone for the productive meeting. **Trustee Chillingworth moved to adjourn the meeting at 9:20am. Trustee Wilson seconded the motion that carried unanimously.** |

**SALT LAKE COMMUNITY COLLEGE** **TAB D**
**PERSONNEL HIRING REPORT**
April 1- 30, 2024

| Name | Title | Department | Date |
|---|---|---|---|
| ADMINISTRATION | | | |
| Dave Rice | Head Coach, Men's Basketball | Athletics | April 17, 2024 |
| FACULTY | | | |
| --None | | | |
| STAFF--EXEMPT | | | |
| Christina Souknarong | Program Manager 3, Student Success Manager | STEM Services | April 1, 2024 |
| Maria Fernanda Zapiain Navarro | Instructional Designer 2 | e-Learning | April 1, 2024 |
| Rhiannon Van Os | Manager 2, Financial Aid | Financial Aid | April 1, 2024 |
| Christina Holm | Assistant Director 3, Library Academic Services | Library Services | April 16, 2024 |
| Sonny Dulfo | Assistant Director 3, Content Services | Library Services | April 16, 2024 |
| Jonah Ericson | Coordinator 2, Workforce Training and Education | Cont Ed (Workforce Training & Econ Dev) | April 16, 2024 |
| Kathleen Beecher | Advisor 2, Financial Aid | Financial Aid | April 16, 2024 |
| Caden Cole | User Interface Designer | Institutional Marketing - Digital | April 16, 2024 |
| Belkis Villa | Coordinator 2, Community and Early Outreach | Government & Community Relations | April 16, 2024 |
| STAFF--NON-EXEMPT | | | |
| Milo Martinez | Custodian, Night Shift | Custodial | April 1, 2024 |
| Cameron Houston | Journeyman Painter | Facilities Paint Department | April 1, 2024 |
| Selina Arenas | Custodian, Taylorsville Campus-Swing Shift | Custodial | April 1, 2024 |
| Alexander Case | Custodian, Taylorsville Campus-Swing Shift | Custodial | April 8, 2024 |
| Adriana Perez | Custodian, Night Shift | Custodial | April 15, 2024 |
| Korbin Massey | Custodian, Night Shift | Custodial | April 15, 2024 |
| Joseph Marsh | Custodian, Night Shift | Custodial | April 15, 2024 |
| Robert J. Quanstrom | Manager, Help Desk and Training | Information Technology | April 16, 2024 |
| Dallas Herndon | Technician 3, Miller Conference Center | The Mill Entrepreneurship Center | April 16, 2024 |
| Felicity Chase | Specialist 1, Scholarships | Financial Aid | April 16, 2024 |
| Cateria Adams | Medical Assistant | Center for Health & Counseling | April 16, 2024 |
| Hans Hardle | Coordinator 1, Redwood Cashiering | Cashiering | April 16, 2024 |
| Atteib Ismail | Custodian, Night Shift | Custodial | April 22.2024 |
| Christina Matlock | Custodian, Swing-Day, Miller Campus | Custodial | April 22.2024 |
| Connor Rose-Johnson | Custodian, Night Shift | Custodial | April 29, 2024 |

**SALT LAKE COMMUNITY COLLEGE**
**PERSONNEL HIRING REPORT**
May 1- 31, 2024

| Name | Title | Department | Date |
|---|---|---|---|
| ADMINISTRATION | | | |
| Ronald McKay | Associate Dean, Department of Mathematics | Mathematics | May 16, 2024 |
| FACULTY | | | |
| | | | |
| STAFF--EXEMPT | | | |
| Katie Bald | Coordinator 3, Web-Based Writer | Institutional Marketing-Digital | May 1, 2024 |
| Brianna Meza-Palomar | Advisor 1, Scholarships | Financial Aid | May 1, 2024 |
| Daniel DeWitt | Assistant Director 3, Employer Engagement & Internships | Office of Career Services | May 1, 2024 |
| Joanna Kreifeldt | Manager 2, Compensation | People Workplace Culture | May 16, 2024 |
| Maria Chaves | Advisor 1, Financial Aid | Financial Aid | May 16, 2024 |
| STAFF--NON-EXEMPT | | | |
| Saxtyn Campbell | Custodian, Child Care South City Campus | Child Care (Student Affairs)-4G5 | May 1, 2024 |
| Amy Lane | Custodian, Night Shift | Custodial | May 6, 2024 |
| Sydney Vasquez | Technician 2, Financial Aid | Financial Aid | May 16, 2024 |
| Allison Morgan | Specialist 1, Transfer Evaluation | Office of the Registrar & Academic Records | May 16, 2024 |

# TAB E

**Vice President of Government and Community Relations**
**Office of Sponsored Projects: Government Funding Report**
**Board of Trustees Meeting: April 2024**

## SUBMITTED FUNDING PROPOSALS UNDER CONSIDERATION

| Funding Agency: Project Name | Date Submitted | Amount Requested | Receipt of Award | Status | Amount Funded | Period of Performance | Program Administration |
|---|---|---|---|---|---|---|---|
| DOJ Collaborative SP Program | 5/6/2024 | $794,973 | | Under Consideration | | 10/1/24-9/30/27 | School of Health Sciences |
| IME BECAS | 5/3/2024 | $22,050 | | Under Consideration | | 7/1/24-12/31/24 | Student Services |
| NEH Ethnography | 5/7/2024 | $149,977 | | Under Consideration | | 2/1/25-7/31/25 | School of Humanities/ Social Science |
| NIH: NINDS (UU) R25 Mentoring | 2/12/2024 | $39,012 | | Under Consideration | | 12/1/24-11/30/29 | School of Science, Math and Engineering |
| NSF: (USU) Biotech ExLENT | 9/6/2023 | $19,587 | | Under Consideration | | 3/1/24-2/28/27 | School of Science, Math and Engineering |
| SLC Arts Council Wake the GSL | 4/18/2024 | $20,000 | | Under Consideration | | 7/1/24-9/30/25 | School of Humanities/ Social Science |
| SLCo ZAP Tier II 2024-2025 | 4/29/2024 | $90,000 | | Under Consideration | | 7/1/24-6/30/25 | School of Arts, Communication and Media |
| UHEAN Dental Hygiene 24-25 | 2/28/2024 | 48 Slots | | Under Consideration | | 8/15/24-8/14/25 | School of Health Sciences |
| USHE UTW EMT Program | 4/1/2024 | $270,000 | | Under Consideration | | 5/13/24-5/12/25 | SLTC Tech Specialties |
| USHE UTW PLC VFD | 4/1/2024 | $57,027 | | Under Consideration | | 6/1/24-5/31/25 | SLTC Tech Specialties |
| USHE UT Works Scientific Molding | 4/1/2024 | $73,000 | | Under Consideration | | 6/1/24-5/31/25 | SLTC Tech Specialties |
| USHE UTW Ski Area Ops | 3/29/2024 | $205,346 | | Under Consideration | | 6/1/24-5/31/26 | Health Lifetime Activities |

## NEWLY FUNDED AWARDS

| Funding Agency: Project Name | Date Submitted | Amount Requested | Receipt of Award | Status | Amount Funded | Period of Performance | Program Administration |
|---|---|---|---|---|---|---|---|
| SBA (USU) SBDC CY24 | 8/1/23 | $260,000 | 10/25/23 | New Award | $260,000 | 1/1/24-12/31/24 | Business Development Resources |
| SBA WVETP | 3/21/24 | $362,167 | 05/09/24 | New Award | $362,167 | 7/1/2024-6/30/28 | Business Development Resources |
| UDVMA 24-25 Veterans Initiatives | 3/18/24 | $21,530 | 5/14/2024 | New Award | $15,930 | 7/1/24-6/30/25 | Student Affairs |

## ON-GOING FUNDING ACTIVITY

| Funding Agency: Project Name | Date Submitted | Amount Requested | Receipt of Award | Status | Amount Funded | Period of Performance | Program Administration |
|---|---|---|---|---|---|---|---|
| SBA (USU) SBDC CY24 | 8/1/23 | $260,000 | 10/25/23 | Awarded | $260,000 | 1/1/24-12/31/24 | Business Development Resources |
| FY 23 GOEO (USU) SBDC One Time | 8/15/23 | $25,000 | 10/25/23 | Awarded | $25,000 | 7/1/23-6/30/24 | Business Development Resources |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| DOD (BioMade (USTEM Fndn) Biotech | 5/31/23 | $45,770 | 09/06/23 | Awarded | $16,000 | 7/1/23-6/30/25 | Biology |
| Tracy Aviary Urban Avian Ecology | 12/15/23 | $19,699 | 02/12/24 | Awarded | $9,795 | 1/1/24-12/31/24 | Biology |
| USHE: UTW Adv Mfg Entry Level Training | 10/2/23 | $699,582 | 10/30/23 | Awarded | $557,832 | 12/1/23-11/30/24 | Salt Lake Technical College |
| USHE UTW ManfOnboarding | 6/28/23 | $65,000 | 07/11/23 | Awarded | $227,500 | 7/1/23-11/30/25 | Salt Lake Technical College |
| USHE: Utah Defense Manufacturing Community | 5/22/23 | $157,501 | 06/26/23 | Awarded | $157,501 | 7/1/23-6/30/24 | School of Applied Technology and Technical Specialties |
| ED: Experimental Sites Initiative, Second Chance Pell to PEP Transition | 5/18/23 | $0 | 06/22/23 | Awarded | $0 | 7/1/23-6/30/26 | Academic Operations |
| Utah Higher Ed AmeriCorps Network: Education Award Slots | 2/16/23 | 48 slots | 07/27/23 | Awarded | 48 slots | 8/15/23-8/14/24 | Allied Health |
| USHE: Talent Ready Utah, Targeted Healthcare Workforce Development: RN | 6/29/23 | $614,980 | 07/11/23 | Awarded | $708,661 | 7/1/23-6/30/24 | School of Health Sciences |
| USHE: Talent Ready Utah, Cyber Security & Programming Foundations | 6/29/23 | $301,633 | 07/11/23 | Awarded | $196,543 | 9/1/23-8/31/24 | Workforce and Economic Development |
| USHE: Talent Ready Utah, Targeted Healthcare Workforce Development: LPN | 6/29/23 | $243,910 | 07/11/23 | Awarded | $243,910 | 7/1/23-6/30/24 | School of Applied Technology and Technical Specialties |
| Carl Perkins 24 | 5/1/23 | $568,560 | TBD | Awarded | $380,935 | 7/1/23-6/30/24 | School of Applied Technology and Technical Specialties |
| Dept. of Commerce: Utah MBDA Business Center | 5/31/22 | $1,465,267 | 09/20/22 | Awarded | $1,498,147 | 9/1/22-6/30/26 | Business Development Resources |
| ED: Child Care Access Means Parents in School (CCAMPIS) | 7/11/22 | $637,612 | 09/22/22 | Awarded | $637,612 | 10/1/22-9/30/26 | Student Affairs |
| HRSA: AHEC 2022 | 4/1/22 | $739,289 | 09/07/22 | Awarded | $556,246 | 9/1/22-8/31/27 | AHEC |
| DWS: Child Care Stabilization Grant | 12/17/21 | $169,593 | 02/16/22 | Awarded | $588,927 | 1/1/22-6/30/24 | School of Humanities and Social Science |
| ED: Talent Search, Salt Lake School District | 2/25/21 | $1,422,940 | 08/05/21 | Awarded | $1,422,940 | 9/1/21-8/31/26 | Student Affairs |
| DWS: Business Training & Coaching for Child Care Providers | 6/10/21 | $169,593 | 06/24/21 | Awarded | $558,927 | 7/1/21-6/30/24 | Workforce and Economic Development |
| NSF: Increasing STEM Success through Scholarships and Support Services | 3/25/20 | $999,964 | 12/15/20 | Awarded | $999,964 | 12/15/20-11/30/25 | School of Science, Math and Engineering |
| ED: Student Support Services, STEM | 1/27/20 | $1,265,260 | 08/12/20 | Awarded | $1,309,545 | 9/1/20-8/31/25 | Student Affairs |
| ED: Student Support Services | 1/27/20 | $1,834,520 | 08/12/20 | Awarded | $1,898,730 | 9/1/20-8/31/25 | Student Affairs |
| NSF (Middlebury College, Lead): Critical Zone Collaborative | 12/2/19 | $423,436 | 07/28/20 | Awarded | $401,139 | 9/1/20-8/31/25 | School of Science, Math and Engineering |
| NSF: Expanding Technical Career Pathways in Manufacturing for High School Students | 10/3/19 | $584,942 | 07/22/20 | Awarded | $584,942 | 7/1/20-6/30/24 | School of Science, Math and Engineering |
| USHE:UTW SLTC CNA - Utah Works Healthcare Tuition | 8/8/22 | $309,380 | 08/18/22 | Awarded | $139,580 | 9/1/22-12/31/24 | School of Applied Technology and Technical Specialties |
| ACF-ORR (DWS): Short-term Occupational Training for Refugees | 8/2/18 | $272,899 | 10/23/18 | Awarded | $907,741 | 5/1/18-9/30/24 | Workforce and Economic Development |
| SLCo: ZAP Tier II Grand Theatre 2023-2024 Season | 4/28/23 | $90,000 | 09/01/23 | Awarded | $90,000 | 7/1/23-6/30/24 | School of Arts, Communication and Media |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| UDA&M: Utah Original Writing Competition | 12/1/22 | $30,000 | 03/01/23 | Awarded | $90,000 | 4/1/23-6/30/26 | School of Humanities and Social Science |
| USHE: Talent Ready Utah Behavioral Health | 7/27/23 | $93,385 | 08/24/23 | Awarded | $136,912 | 9/1/23-6/30/26 | School of Humanities and Social Science |
| NSF (Penn State, lead): Nanotechnology Center Grant | 10/1/19 | $60,000 | 06/22/20 | Awarded | $52,567 | 9/1/20-8/31/24 | School of Science, Math and Engineering |
| NASA (UofU, Lead): Aeronautics Education | 9/30/19 | $40,000 | 07/14/20 | Awarded | $46,000 | 5/18/20-5/17/24 | School of Science, Math and Engineering |
| DHA: Library Lender Support | N/A | $3,000 | N/A | Awarded | $3,000 | 7/1/23-6/30/24 | Student Affairs |
| SLCAC: Grand Youth Afterschool Theatre Program | 6/29/22 | $7,000 | 09/07/22 | Awarded | $4,600 | 9/1/23-8/31/24 | School of Arts, Communication and Media |
| UAM: Project Grant -Community Book Arts Workshops | 4/28/23 | $3,000 | 06/27/23 | Awarded | $2,250 | 7/1/23-6/30/24 | School of Humanities and Social Science |
| UDVMA VBRC | 6/17/22 | $376,962 | 06/30/22 | Awarded | $200,000 | 7/4/22-6/30/24 | Student Affairs |
| Utah Division of Veterans and Military Affairs: Veteran Services | 4/13/23 | $9,830 | 08/01/23 | Awarded | $9,850 | 8/1/23-6/30/24 | Student Affairs |
| SLCo CO-OP | 4/11/24 | $38,152 | 01/01/24 | Awarded | $38,152 | 1/1/24-6/30/24 | Business Development Resources |
| UDPS: Emergency Management Planning Grant | 4/9/23 | $20,000 | 06/20/23 | Awarded | $15,000 | 7/1/23-6/30/24 | Finance and Administration |
| ED: Campus Internship Program (Earmark) | 6/29/22 | $500,000 | 09/29/22 | Awarded | $500,000 | 9/1/22-8/31/25 | Student Affairs |
| ED: PACE Program (Earmark) | 4/7/23 | $390,000 | 07/20/23 | Awarded | $390,000 | 6/1/23-5/31/24 | Student Affairs |
| **TOTAL FUNDING REQUESTS UNDER CONSIDERATION:** | | **$1,740,972** | | | | | |
| **TOTAL FUNDING FOR ACTIVE AWARDS:** | | | | | **$15,242,013** | | |

# TAB F

**TO: BRADY SOUTHWICK, CHAIR OF THE BOARD OF TRUSTEES**

To the best of my knowledge, the investment reports presented to you accurately reflect the investment activity, the cost, and market value of all investments at month end, and all investments conform with College and Board of Regents policies, and with the State Money Management Act and the rules of the State Money Management Council.

Sean Clayton
Public Treasurer, Salt Lake Community College

**SALT LAKE COMMUNITY COLLEGE**
**MONEY MANAGEMENT INVESTMENTS**
**INVESTMENT PORTFOLIO AT 45382**

| | Rate of Return | Settlement Date | Maturity Date | Cost | Market Value |
|---|---|---|---|---|---|
| **US Treasury Obligations and Agency Bonds** | | | | | |
| United States Treasury | 3.13% | 08/04/22 | 08/15/24 | 7,980,333.40 | 7,912,109.36 |
| | 4.21% | 01/17/23 | 12/31/24 | 10,002,504.40 | 9,930,957.00 |
| | 4.89% | 08/15/23 | 08/15/25 | 7,822,666.64 | 7,818,750.00 |
| | 4.70% | 02/15/24 | 10/31/25 | 2,711,908.05 | 2,708,015.63 |
| | 4.76% | 03/27/24 | 10/31/25 | 2,006,953.68 | 2,005,937.50 |
| | 4.50% | 02/06/24 | 11/15/25 | 1,999,887.12 | 1,991,328.12 |
| | 4.37% | 01/08/24 | 12/31/25 | 9,980,260.88 | 9,919,531.20 |
| | 4.38% | 02/20/24 | 09/30/27 | 1,984,150.86 | 1,985,312.50 |
| | 4.38% | 02/20/24 | 10/31/27 | 1,983,450.00 | 1,985,000.00 |
| Federal Agricultural Mortgage Corporation | 5.06% | 11/24/23 | 09/08/25 | 1,883,611.80 | 1,884,666.82 |
| | 5.40% | 10/16/23 | 10/16/28 | 2,000,000.00 | 2,007,050.54 |
| | 4.92% | 11/01/23 | 11/01/28 | 2,000,000.00 | 2,053,595.60 |
| | 4.38% | 02/09/24 | 02/09/29 | 2,000,000.00 | 1,956,138.76 |
| Federal Farm Credit Bank | 4.34% | 09/19/22 | 09/19/24 | 2,000,000.00 | 1,987,575.16 |
| | 4.33% | 10/17/22 | 10/17/24 | 2,000,414.94 | 1,991,270.72 |
| | 4.83% | 11/10/22 | 01/10/25 | 2,950,990.48 | 2,943,325.01 |
| | 4.77% | 07/11/23 | 04/10/26 | 1,994,720.00 | 1,997,480.16 |
| | 4.00% | 04/18/23 | 04/13/26 | 1,990,679.96 | 1,964,011.16 |
| | 4.45% | 07/17/23 | 07/17/26 | 2,007,140.04 | 1,997,378.56 |
| | 4.57% | 07/21/23 | 07/17/26 | 2,002,264.99 | 1,997,378.56 |
| | 4.98% | 10/11/23 | 09/01/26 | 1,989,990.84 | 2,006,887.06 |
| | 4.83% | 12/14/23 | 12/11/26 | 2,000,000.00 | 1,974,843.92 |
| | 5.50% | 10/11/23 | 10/02/28 | 1,998,199.98 | 2,012,796.80 |
| | 4.31% | 12/15/23 | 12/15/28 | 1,995,034.68 | 1,998,481.38 |
| Federal Home Loan Bank | 2.88% | 06/14/22 | 06/14/24 | 2,000,000.00 | 1,990,044.10 |
| | 4.92% | 03/01/23 | 02/13/25 | 1,345,451.07 | 1,343,588.88 |
| | 2.00% | 02/28/22 | 02/27/25 | 2,000,000.00 | 1,946,326.76 |
| | 1.25% | 12/30/21 | 06/30/25 | 2,000,000.00 | 1,916,101.78 |
| | 4.05% | 07/28/22 | 07/28/25 | 2,000,000.00 | 1,975,740.10 |
| | 4.05% | 07/28/22 | 07/28/25 | 2,000,000.00 | 1,977,056.08 |
| | 3.85% | 05/04/23 | 03/13/26 | 2,023,527.66 | 1,992,586.82 |
| | 0.88% | 03/23/21 | 03/23/26 | 1,000,000.00 | 926,771.62 |
| | 5.00% | 10/11/23 | 06/12/26 | 1,974,796.28 | 1,991,015.54 |
| | 1.13% | 07/29/21 | 07/29/26 | 2,000,000.00 | 1,842,313.90 |
| | 1.10% | 08/30/21 | 08/24/26 | 2,000,000.00 | 1,836,761.30 |
| | 1.00% | 08/25/21 | 08/25/26 | 2,000,000.00 | 1,832,086.28 |
| | 4.95% | 11/01/23 | 09/11/26 | 1,996,571.20 | 2,016,314.76 |
| | 1.00% | 10/14/21 | 10/14/26 | 2,000,000.00 | 1,826,364.68 |
| | 1.25% | 10/28/21 | 10/28/26 | 2,000,000.00 | 1,839,823.62 |
| | 1.38% | 11/16/21 | 11/16/26 | 2,000,000.00 | 1,843,489.90 |
| | 1.50% | 11/23/21 | 11/23/26 | 2,000,000.00 | 1,848,574.32 |
| | 1.63% | 12/30/21 | 12/30/26 | 2,000,000.00 | 1,837,385.28 |
| | 4.80% | 06/23/23 | 06/23/28 | 2,000,000.00 | 1,986,295.76 |
| | 4.43% | 02/13/24 | 02/12/29 | 1,997,312.66 | 1,975,506.12 |
| | 5.00% | 03/19/24 | 03/19/29 | 2,000,000.00 | 1,997,378.46 |
| Federal Home Loan Mortgage Corporation | 3.00% | 06/23/22 | 09/23/24 | 2,000,000.00 | 1,976,968.42 |
| | 2.65% | 04/18/22 | 10/08/24 | 2,238,396.24 | 2,210,529.98 |
| | 3.00% | 04/29/22 | 10/29/24 | 2,000,000.00 | 1,974,966.58 |
| | 4.10% | 08/19/22 | 02/19/25 | 2,000,000.00 | 1,982,778.06 |
| | 5.00% | 10/24/22 | 04/24/25 | 2,000,000.00 | 1,991,393.70 |
| | 3.10% | 04/25/22 | 04/25/25 | 2,000,000.00 | 1,961,948.32 |
| | 3.40% | 05/27/22 | 05/23/25 | 2,000,000.00 | 1,966,754.44 |
| Federal National Mortgage Association | 4.13% | 08/30/22 | 08/28/25 | 2,000,000.00 | 1,977,009.82 |

| | Rate of Return | Settlement Date | Maturity Date | Cost | Market Value |
|---|---|---|---|---|---|
| **Medium Term Floating Rate Bonds** | | | | | |
| Athene Global Funding | 6.15% | 05/28/21 | 05/24/24 | 2,000,183.45 | 2,001,035.94 |
| | 6.00% | 09/09/21 | 05/24/24 | 2,000,425.47 | 2,001,035.94 |
| Citigroup Inc | 4.30% | 08/12/22 | 08/12/25 | 2,000,000.00 | 1,966,825.52 |
| | 6.14% | 01/19/24 | 12/04/26 | 2,017,773.71 | 2,026,009.86 |
| Goldman Sachs GP Inc | 5.84% | 08/12/21 | 08/12/24 | 1,000,000.00 | 998,321.36 |
| JP Morgan | 6.27% | 03/02/23 | 02/24/26 | 2,002,904.00 | 2,009,564.76 |
| | 6.13% | 01/12/24 | 12/08/26 | 2,015,366.58 | 2,032,332.60 |
| Royal Bank of Canada | 4.18% | 08/04/22 | 08/04/25 | 2,000,000.00 | 1,971,497.52 |
| **Mutual Funds, PTIF, Sweep Account** | | | | | |
| Mutual Funds - Bruin Club | | | | | |
| Fidelity Janus Strategic Value Fund | 12.52% | Various | Open | 35,000.00 | 156,274.18 |
| Janus Forty Fund | 32.63% | Various | Open | 41,250.00 | 227,982.55 |
| The Vanguard 500 Index Fund | 25.87% | Various | Open | 43,750.00 | 268,990.47 |
| Mutual Funds - Alumni Office | | | | | |
| Janus Research Fund | 37.56% | Various | Open | 26,500.00 | 104,930.94 |
| Janus Enterprise Fund | 17.78% | Various | Open | 31,500.00 | 119,256.66 |
| The Vanguard 500 Index Fund | 25.87% | Various | Open | 27,000.00 | 160,042.87 |
| Grand Theatre | | | | | |
| Vanguard LifeStrategy Conservative Growth Fund | 10.71% | 12/26/06 | Open | 95,717.01 | 190,558.77 |
| Utah State Treasurer | | | | | |
| Public Treasurers' Investment Fund | 5.37% | 03/31/24 | Open | 16,514,246.95 | 16,514,246.95 |
| Zions First National Bank | | | | | |
| Sweep Account | 1.50% | 03/31/24 | Open | 1,192,831.43 | 1,192,831.43 |
| Total Investment Portfolio | | | | 166,905,666.45 | 165,755,435.22 |
| **2018 Revenue Bond Holdings** | | | | | |
| Utah State Treasurer | | | | | |
| Public Treasurers' Investment Fund | 5.37% | 03/31/24 | Open | 1,582,061.57 | 1,582,061.57 |

SALT LAKE COMMUNITY COLLEGE
INVESTMENT TRANSACTIONS
March 2024

| Description | Interest | Settlement Date | Maturity Date | Call Date | Cost |
|---|---|---|---|---|---|
| **Investments - February 29, 2024** | | | | | 170,611,895.32 |
| **PURCHASES** | | | | | |
| United States Treasury | | | | | |
| U.S. Treasury Note | 4.76% | 03/27/24 | 10/31/25 | None | 2,007,340.00 |
| FHLB | | | | | |
| U.S. Agency | 5.00% | 03/19/24 | 03/19/29 | 03/19/26 | 2,000,000.00 |
| Utah State Treasurer | | | | | |
| Public Treasurers' Investment Fund | 5.37% | Various | Various | None | 22,004,429.49 |
| Zions First National Bank | | | | | |
| Sweep Account | 1.50% | Various | Various | None | 6,443,236.59 |
| Total Purchases | | | | | 32,455,006.08 |
| **SALES / MATURITIES / CALLS** | | | | | |
| Net Premium/Discount Amortization | | | | | (22,878.69) |
| FFCB | | | | | |
| U.S. Agency | 1.67% | 03/08/22 | 03/08/24 | 03/08/24 | 2,000,000.00 |
| Utah State Treasurer | | | | | |
| Public Treasurers' Investment Fund | 5.37% | Various | Various | None | 24,300,000.00 |
| Zions First National Bank | | | | | |
| Sweep Account | 1.50% | Various | Various | None | 9,884,113.64 |
| Total Sales | | | | | 36,161,234.95 |
| **Investments - March 31, 2024** | | | | | 166,905,666.45 |

**MONEY MANAGEMENT INVESTMENTS**
**SUMMARY OF INVESTMENT TRANSACTIONS**
**FOR THE YEAR ENDING JUNE 30, 2024**

| Month | Beginning Balance | Purchases | Sales | Ending Balance | Weighted Average Balance | Interest and Dividends** | Interest Rate** |
|---|---|---|---|---|---|---|---|
| July 2023 | 174,430,937.16 | 32,697,344.78 | 41,037,587.98 | 166,090,693.96 | 168,100,865.85 | 572,436.01 | 3.95% |
| August 2023 | 166,090,693.96 | 66,339,385.79 | 54,745,157.60 | 177,684,922.15 | 171,241,816.56 | 550,281.17 | 3.73% |
| September 2023 | 177,684,922.15 | 19,120,539.90 | 21,634,858.52 | 175,170,603.53 | 177,775,899.04 | 546,659.57 | 3.69% |
| October 2023 | 175,170,603.53 | 28,669,010.28 | 34,708,532.60 | 169,131,081.21 | 171,578,997.05 | 569,272.12 | 3.85% |
| November 2023 | 169,131,081.21 | 36,303,498.47 | 36,444,032.70 | 168,990,546.98 | 173,234,793.41 | 671,415.08 | 4.65% |
| December 2023 | 168,990,546.98 | 23,353,947.62 | 26,787,830.81 | 165,556,663.79 | 168,374,343.67 | 631,205.74 | 4.35% |
| January 2024 | 165,556,663.79 | 66,706,133.90 | 60,197,748.48 | 172,065,049.21 | 170,116,433.35 | 625,614.93 | 4.27% |
| February 2024 | 172,065,049.21 | 44,339,847.72 | 45,793,001.61 | 170,611,895.32 | 189,298,208.89 | 676,833.91 | 4.44% |
| March 2024 | 170,611,895.32 | 32,455,006.08 | 36,161,234.95 | 166,905,666.45 | 177,200,716.35 | 662,588.73 | 4.34% |
| April 2024 | | | | | | | |
| May 2024 | | | | | | | |
| June 2024 | | | | | | | |
| | | **349,984,714.54** | **357,509,985.25** | | **174,102,452.69** * | **5,506,307.25** | **4.14%** * |

* Based on average of months shown

** Includes unrealized gains/losses on mutual fund holdings

Dr. Deneece Huftalin, President

**TO: BRADY SOUTHWICK, CHAIR OF THE BOARD OF TRUSTEES**

To the best of my knowledge, the investment reports presented to you accurately reflect the investment activity, the cost, and market value of all investments at month end, and all investments conform with College and Board of Regents' policies, and with the State Money Management Act and the rules of the State Money Management Council.

Sean Citron
Public Treasurer, Salt Lake Community College

**SALT LAKE COMMUNITY COLLEGE**
**MONEY MANAGEMENT INVESTMENTS**
**INVESTMENT PORTFOLIO AT 4-30-2024**

| | Rate of Return | Settlement Date | Maturity Date | Cost | Market Value |
|---|---|---|---|---|---|
| **US Treasury Obligations and Agency Bonds** | | | | | |
| United States Treasury | 3.13% | 08/04/22 | 08/15/24 | 7,985,250.07 | 7,930,000.00 |
| | 4.21% | 01/17/23 | 12/31/24 | 10,002,191.36 | 9,928,385.40 |
| | 4.89% | 08/15/23 | 08/15/25 | 7,833,749.97 | 7,795,937.52 |
| | 4.70% | 02/15/24 | 10/31/25 | 2,711,281.31 | 2,693,355.46 |
| | 4.76% | 03/27/24 | 10/31/25 | 2,006,567.36 | 1,995,078.12 |
| | 4.50% | 02/06/24 | 11/15/25 | 1,999,892.76 | 1,980,156.24 |
| | 4.37% | 01/08/24 | 12/31/25 | 9,981,247.84 | 9,858,593.80 |
| | 4.38% | 02/20/24 | 09/30/27 | 1,984,528.22 | 1,954,921.88 |
| | 4.38% | 02/20/24 | 10/31/27 | 1,983,834.88 | 1,953,515.62 |
| Federal Agricultural Mortgage Corporation | 5.06% | 11/24/23 | 09/08/25 | 1,890,458.16 | 1,882,762.02 |
| | 5.40% | 10/16/23 | 10/16/28 | 2,000,000.00 | 1,988,376.64 |
| | 4.92% | 11/01/23 | 11/01/28 | 2,000,000.00 | 2,012,888.62 |
| | 4.38% | 02/09/24 | 02/09/29 | 2,000,000.00 | 1,922,647.96 |
| Federal Farm Credit Bank | 4.34% | 09/19/22 | 09/19/24 | 2,000,000.00 | 1,989,861.08 |
| | 4.33% | 10/17/22 | 10/17/24 | 2,000,345.77 | 1,990,830.98 |
| | 4.83% | 11/10/22 | 01/10/25 | 2,950,880.42 | 2,941,015.86 |
| | 4.77% | 07/11/23 | 04/10/26 | 1,994,940.00 | 1,982,384.98 |
| | 4.00% | 04/18/23 | 04/13/26 | 1,991,068.29 | 1,949,220.84 |
| | 4.45% | 07/17/23 | 07/17/26 | 2,006,875.60 | 1,979,530.54 |
| | 4.57% | 07/21/23 | 07/17/26 | 2,002,181.10 | 1,979,530.54 |
| | 4.98% | 10/11/23 | 09/01/26 | 1,990,335.98 | 1,985,300.82 |
| | 4.83% | 12/14/23 | 12/11/26 | 2,000,000.00 | 1,975,263.68 |
| | 5.50% | 10/11/23 | 10/02/28 | 1,998,233.31 | 1,985,977.92 |
| | 4.31% | 12/15/23 | 12/15/28 | 1,995,123.35 | 1,958,199.14 |
| Federal Home Loan Bank | 2.88% | 06/14/22 | 06/14/24 | 2,000,000.00 | 1,993,672.60 |
| | 4.92% | 03/01/23 | 02/13/25 | 1,345,905.96 | 1,341,337.33 |
| | 2.00% | 02/28/22 | 02/27/25 | 2,000,000.00 | 1,947,045.80 |
| | 1.25% | 12/30/21 | 06/30/25 | 2,000,000.00 | 1,914,132.20 |
| | 4.05% | 07/28/22 | 07/28/25 | 2,000,000.00 | 1,972,528.58 |
| | 4.05% | 07/28/22 | 07/28/25 | 2,000,000.00 | 1,972,528.58 |
| | 3.85% | 05/04/23 | 03/13/26 | 2,022,504.72 | 1,979,550.32 |
| | 0.88% | 03/23/21 | 03/23/26 | 1,000,000.00 | 921,913.63 |
| | 5.00% | 10/11/23 | 06/12/26 | 1,975,765.66 | 1,972,496.48 |
| | 1.13% | 07/29/21 | 07/29/26 | 2,000,000.00 | 1,829,022.20 |
| | 1.10% | 08/30/21 | 08/24/26 | 2,000,000.00 | 1,822,732.42 |
| | 1.00% | 08/25/21 | 08/25/26 | 2,000,000.00 | 1,818,285.52 |
| | 4.95% | 11/01/23 | 09/11/26 | 1,996,689.44 | 1,994,313.94 |
| | 1.00% | 10/14/21 | 10/14/26 | 2,000,000.00 | 1,808,499.28 |
| | 1.25% | 10/28/21 | 10/28/26 | 2,000,000.00 | 1,817,160.20 |
| | 1.38% | 11/16/21 | 11/16/26 | 2,000,000.00 | 1,819,537.98 |
| | 1.50% | 11/23/21 | 11/23/26 | 2,000,000.00 | 1,824,368.94 |
| | 1.63% | 12/30/21 | 12/30/26 | 2,000,000.00 | 1,819,539.80 |
| | 4.80% | 06/23/23 | 06/23/28 | 2,000,000.00 | 1,968,375.04 |
| | 4.43% | 02/13/24 | 02/12/29 | 1,997,358.99 | 1,940,689.54 |
| | 5.00% | 03/19/24 | 03/19/29 | 2,000,000.00 | 1,978,690.32 |
| | 5.10% | 04/30/24 | 04/26/29 | 2,000,000.00 | 1,994,779.44 |
| Federal Home Loan Mortgage Corporation | 3.00% | 06/23/22 | 09/23/24 | 2,000,000.00 | 1,979,535.42 |
| | 2.65% | 04/18/22 | 10/08/24 | 2,238,663.55 | 2,210,750.82 |
| | 3.00% | 04/29/22 | 10/29/24 | 2,000,000.00 | 1,976,680.62 |
| | 4.10% | 08/19/22 | 02/19/25 | 2,000,000.00 | 1,979,455.06 |
| | 5.00% | 10/24/22 | 04/24/25 | 2,000,000.00 | 1,991,826.72 |
| | 3.10% | 04/25/22 | 04/25/25 | 2,000,000.00 | 1,956,775.60 |
| | 3.40% | 05/27/22 | 05/23/25 | 2,000,000.00 | 1,959,582.32 |
| Federal National Mortgage Association | 4.13% | 08/30/22 | 08/28/25 | 2,000,000.00 | 1,970,727.52 |

| | Rate of Return | Settlement Date | Maturity Date | Cost | Market Value |
|---|---|---|---|---|---|
| **Medium Term Floating Rate Bonds** | | | | | |
| Athene Global Funding | 6.15% | 05/28/21 | 05/24/24 | 2,000,000.12 | 2,000,654.00 |
| | 6.00% | 09/09/21 | 05/24/24 | 1,999,999.84 | 2,000,654.00 |
| Citigroup Inc | 4.30% | 08/12/22 | 08/12/25 | 2,000,000.00 | 1,970,422.08 |
| | 6.14% | 01/19/24 | 12/04/26 | 2,017,218.28 | 2,024,583.22 |
| Goldman Sachs GP Inc | 5.84% | 08/12/21 | 08/12/24 | 1,000,000.00 | 998,719.33 |
| JP Morgan | 6.27% | 03/02/23 | 02/24/26 | 2,002,772.00 | 2,006,680.00 |
| | 6.13% | 01/12/24 | 12/08/26 | 2,014,885.44 | 2,025,252.76 |
| Royal Bank of Canada | 4.18% | 08/04/22 | 08/04/25 | 2,000,000.00 | 1,974,733.72 |
| **Mutual Funds, PTIF, Sweep Account** | | | | | |
| Mutual Funds - Bruin Club | | | | | |
| Fidelity Janus Strategic Value Fund | 7.23% | Various | Open | 35,000.00 | 151,472.32 |
| Janus Forty Fund | 21.34% | Various | Open | 41,250.00 | 215,731.36 |
| The Vanguard 500 Index Fund | 17.43% | Various | Open | 43,750.00 | 257,994.06 |
| Mutual Funds - Alumni Office | | | | | |
| Janus Research Fund | 26.71% | Various | Open | 26,500.00 | 100,087.34 |
| Janus Enterprise Fund | 9.77% | Various | Open | 31,500.00 | 113,791.57 |
| The Vanguard 500 Index Fund | 17.43% | Various | Open | 27,000.00 | 153,500.27 |
| Grand Theatre | | | | | |
| Vanguard LifeStrategy Conservative Growth Fund | 6.22% | 12/26/06 | Open | 95,717.01 | 185,522.38 |
| Utah State Treasurer | | | | | |
| Public Treasurers' Investment Fund | 5.37% | 04/30/24 | Open | 12,770,655.77 | 12,770,655.77 |
| Zions First National Bank | | | | | |
| Sweep Account | 1.50% | 04/30/24 | Open | 1,785,317.74 | 1,785,317.74 |
| Total Investment Portfolio | | | | 165,777,440.27 | 163,826,041.80 |
| **2018 Revenue Bond Holdings** | | | | | |
| Utah State Treasurer | | | | | |
| Public Treasurers' Investment Fund | 5.37% | 04/30/24 | Open | 1,582,061.57 | 1,589,377.47 |

SALT LAKE COMMUNITY COLLEGE
INVESTMENT TRANSACTIONS
April 2024

| Description | Interest | Settlement Date | Maturity Date | Call Date | Cost |
|---|---|---|---|---|---|
| **Investments - March 31, 2024** | | | | | 166,905,666.45 |
| **PURCHASES** | | | | | |
| FHLB | | | | | |
| U.S. Agency | 5.10% | 04/30/24 | 04/26/29 | 04/26/27 | 2,000,000.00 |
| Utah State Treasurer | | | | | |
| Public Treasurers' Investment Fund | 5.37% | Various | Various | None | 15,556,408.82 |
| Zions First National Bank | | | | | |
| Sweep Account | 1.50% | Various | Various | None | 3,814,499.97 |
| Total Purchases | | | | | 21,370,908.79 |
| **SALES / MATURITIES / CALLS** | | | | | |
| Net Premium/Discount Amortization | | | | | (22,878.69) |
| Utah State Treasurer | | | | | |
| Public Treasurers' Investment Fund | 5.37% | Various | Various | None | 19,300,000.00 |
| Zions First National Bank | | | | | |
| Sweep Account | 1.50% | Various | Various | None | 3,222,013.66 |
| Total Sales | | | | | 22,499,134.97 |
| **Investments - April 30, 2024** | | | | | 165,777,440.27 |

**MONEY MANAGEMENT INVESTMENTS**
**SUMMARY OF INVESTMENT TRANSACTIONS**
**FOR THE YEAR ENDING JUNE 30, 2024**

| Month | Beginning Balance | Purchases | Sales | Ending Balance | Weighted Average Balance | Interest and Dividends** | Interest Rate** |
|---|---|---|---|---|---|---|---|
| July 2023 | 174,430,937.16 | 32,697,344.78 | 41,037,587.98 | 166,090,693.96 | 168,100,865.85 | 572,436.01 | 3.95% |
| August 2023 | 166,090,693.96 | 66,339,385.79 | 54,745,157.60 | 177,684,922.15 | 171,241,816.56 | 550,281.17 | 3.73% |
| September 2023 | 177,684,922.15 | 19,120,539.90 | 21,634,858.52 | 175,170,603.53 | 177,775,899.04 | 546,659.57 | 3.69% |
| October 2023 | 175,170,603.53 | 28,669,010.28 | 34,708,532.60 | 169,131,081.21 | 171,578,997.05 | 569,272.12 | 3.85% |
| November 2023 | 169,131,081.21 | 36,303,498.47 | 36,444,032.70 | 168,990,546.98 | 173,234,793.41 | 671,415.08 | 4.65% |
| December 2023 | 168,990,546.98 | 23,353,947.62 | 26,787,830.81 | 165,556,663.79 | 168,374,343.67 | 631,205.74 | 4.35% |
| January 2024 | 165,556,663.79 | 66,706,133.90 | 60,197,748.48 | 172,065,049.21 | 170,116,433.35 | 625,614.93 | 4.27% |
| February 2024 | 172,065,049.21 | 44,339,847.72 | 45,793,001.61 | 170,611,895.32 | 189,298,208.89 | 676,833.91 | 4.44% |
| March 2024 | 170,611,895.32 | 32,455,006.08 | 36,161,234.95 | 166,905,666.45 | 177,200,716.35 | 662,588.73 | 4.34% |
| April 2024 | 166,905,666.45 | 21,370,908.79 | 22,499,134.97 | 165,777,440.27 | 177,457,491.97 | 560,545.22 | 3.79% |
| May 2024 | | | | | | | |
| June 2024 | | | | | | | |
| | | **371,355,623.33** | **380,009,120.22** | | **174,437,956.61** * | **6,066,852.47** | **4.11%** * |

* Based on average of months shown

** Includes unrealized gains/losses on mutual fund holdings

Jason Pedraza, Acting President

Dr. Deneece Huftalin, President

# TAB G

**April 2024 Interim Income Statements**

**SLCC – Education & General Fund**

As of April 30, 2024, the College has recorded total revenues year to date related to Education & General Fund Operations of $156,462,060 and total expenses of $142,029,109.

Revenues are trending slightly behind of plan, year to date, by 0.1% or $128,074 as of April 30. Compared to FY 2023, year to date revenue is better by 6.4% or $9,345,469. This is being driven almost exclusively by an increase in State Appropriations and Tuition and Fee Revenue for Fall 2023, Spring 2024, and Summer 2024.

Expenses are trending less than plan, year to date, by 10.3% or $14,561,024 as of April 30. Compared to FY2023, year to date expenses are higher by 5.5% or $7,420,311. This variance is being driven primarily by higher salaries and benefit costs over FY2023 and an increase in current expense.

Net Income for Education and General Fund Operations is forecasted at $11,467,040. This is being driven in large part by a significant forecasted increase in tuition and fees above budget for the 2023-2024 Academic Year.

Respectfully Submitted:
Chris A. Martin
Vice President for Finance and Administration

VICE PRESIDENT FOR FINANCE AND ADMINISTRATION, CFO
P.O. Box 30808 | BVP | Salt Lake City, Utah 84130-0808 | Phone 801-957-4084 | Fax 801-957-4445 | www.slcc.edu

**April 2024 Interim Income Statements**

**Salt Lake Technical College**

As of April 30, 2024, the SLTC has recorded total revenues year to date of $11,426,271 and total expenses of $9,490,419.

Revenues are trending ahead of plan, year to date, by 3.9% or $449,371 as of April 30. Compared to FY 2023, year to date revenue is better by 26.3% or $2,375,880. This is being driven by increased tuition and fee revenue over prior year and increased State Appropriations over prior year.

Expenses are trending less than plan, year to date, by 15.7% or $1,486,581 as of April 30. Compared to FY2023, year to date expenses are higher by 25.0% or $1,901,090. This variance is being driven in large part by higher salaries and benefit costs over FY2023 and an increase in current expense, year over year.

Net Income for Salt Lake Technical College is forecasted at $1,741,929.

Respectfully Submitted:
Chris A. Martin
Vice President for Finance and Administration

VICE PRESIDENT FOR FINANCE AND ADMINISTRATION, CFO
P.O. Box 30808 | BVP | Salt Lake City, Utah 84130-0808 | Phone 801-957-4084 | Fax 801-957-4445 | www.slcc.edu

**Salt Lake Community College**
Interim - Actual to Budget Income Statement (Unaudited)
Education and General Fund
As of April 30, 2024
83.33% of Year Has Elapsed

| | FY-24 | | | FY-23 | $ Difference | |
|---|---|---|---|---|---|---|
| | Rev. Budget | Actual YTD | % of Budget | Actual YTD | of Actual YTD | % of Change |
| **Revenues** | | | | | | |
| State Approp | 130,322,300 | 108,427,627 | 83.20% | 98,841,066 | 9,586,560 | 9.70% |
| Tuition & Fees | 57,134,271 | 47,986,888 | 83.99% | 48,210,833 | (223,945) | -0.46% |
| Educ Dept Sales | 25,000 | 35,187 | 140.75% | 32,030 | 3,157 | 9.86% |
| Other Rev | 426,589 | 12,357 | 2.90% | 32,661 | (20,304) | -62.17% |
| Total Revenues | 187,908,160 | 156,462,060 | 83.27% | 147,116,591 | 9,345,469 | 6.35% |
| **Expenditures** | | | | | | |
| Salaries | 79,070,812 | 62,996,208 | 79.67% | 59,625,695 | 3,370,513 | 5.65% |
| Wages | 27,382,964 | 22,472,476 | 82.07% | 20,598,546 | 1,873,930 | 9.10% |
| Benefits | 42,376,964 | 32,583,159 | 76.89% | 31,204,599 | 1,378,560 | 4.42% |
| Current Exp | 31,206,273 | 19,699,798 | 63.13% | 18,413,058 | 1,286,740 | 6.99% |
| Fuel-Powr | 3,314,980 | 2,003,528 | 60.44% | 3,101,664 | (1,098,135) | -35.40% |
| Travel | 1,640,035 | 642,988 | 39.21% | 770,949 | (127,961) | -16.60% |
| Equipment | 2,847,132 | 1,561,952 | 54.86% | 2,326,519 | (764,567) | -32.86% |
| Transfers | 69,000 | 69,000 | 100.00% | (1,432,232) | 1,501,232 | -104.82% |
| Total Expenditures | 187,908,160 | 142,029,109 | 75.58% | 134,608,798 | 7,420,311 | 5.51% |

**Projected YE Net Income**

| | | |
|---|---|---|
| Est. YE Tuit & Fees Overage (Shortage): | (3,067,289) | |
| Est. FY24 Waivers Remaining | (26,694) | |
| Est. Savings Due to Exp Less than Budget: | 14,561,024 | (7.75%Exp Savings |
| Est YE Total Net Income: | 11,467,040 | X Exp Budget) |
| FY-24 Beginning Fund Balance | 14,259,203 | |
| Est FY-24 Ending Fund Balance | 25,726,243 | |

***Note: As of 4/30/2024***

| | |
|---|---|
| *current + travel + equipmt encumbrance is:* | *6,168,247* |
| *salary & est, hrly and benefits encumbrance is:* | *12,236,465* |
| | *18,404,712* |

**FY-24 Tuition & Fees Breakdown & YE Projection**

| | Rev. Budget | Actual |
|---|---|---|
| Summer Term (1/2 complete) | 7,610,189 | 4,276,609 |
| Fall Term | 25,133,285 | 25,322,951 |
| Spring Term | 23,454,975 | 24,083,996 |
| Other Fees | 935,822 | 742,149 |
| Less Actual Tuition Waivers | | (6,438,817) |
| Totals Before Est. Adjmts: | 57,134,271 | 47,986,888 |
| Add est. 1/2 Summ 2024 Term | | 6,986,421 |
| Add est. Spr 2024 Term | | - |
| Add Est. Add'l Other Fees | | 193,673 |
| Sub-Total | | 55,166,982 |
| Less Est remaining CE Transfer Out of E&G * | | (1,100,000) |
| Est.YE Tuition & Fees Total: | | 54,066,982 |
| Est. Over (Short) of Tuit & Fees: | | (3,067,289) |

Date Prepared: 5/07/2024
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** In FY23, $1,100,622 was transferred out of PBASSP for FY23 to CE indexes. As of 09/06/2023, $0 has already been transferred to CE indexes. Estimated still to be transferred out: $1,100,000.*

SLCC Controller's Office

Information provided by SLCC Controller's Office on 5/9/2024

**Salt Lake Community College**
Interim - Actual to Budget Income Statement (Unaudited)
Salt Lake Technical College
As of April 30, 2024
83.33% of Year Has Elapsed

| | FY-24 | | | FY-23 | | |
|---|---|---|---|---|---|---|
| | Rev. Budget | Actual YTD | % of Budget | Actual YTD | $ Difference | % of Change |
| **Revenues** | | | | | | |
| State Appropriations | 11,912,400 | 10,163,480 | 85.32% | 8,184,369 | 1,979,111 | 24.18% |
| Tuition & Fees | 1,260,000 | 1,262,791 | 100.22% | 866,022 | 396,769 | 45.82% |
| Other Sources | - | - | - | - | - | - |
| Total Revenues | 13,172,400 | 11,426,271 | 86.74% | 9,050,391 | 2,375,880 | 26.25% |
| **Expenditures** | | | | | | |
| Salaries | 5,289,241 | 3,920,220 | 74.12% | 3,267,323 | 652,897 | 19.98% |
| Wages | 3,230,824 | 2,191,151 | 67.82% | 1,775,403 | 415,748 | 23.42% |
| Employee Benefits | 2,980,683 | 2,055,097 | 68.95% | 1,762,114 | 292,983 | 16.63% |
| Current Expenses | 1,069,816 | 929,723 | 86.90% | 684,374 | 245,349 | 35.85% |
| Fuel & Power | 75,500 | 75,500 | 100.00% | 75,500 | - | 0.00% |
| Travel | 35,139 | 19,332 | 55.02% | 13,646 | 5,685 | 41.66% |
| Equipment | 491,197 | 299,397 | 60.95% | 10,969 | 288,428 | 2629.48% |
| Transfers (In)/Out | - | - | - | - | - | - |
| Total Expenditures | 13,172,400 | 9,490,419 | 72.05% | 7,589,329 | 1,901,090 | 25.05% |

| **Projected YE Net Income** | | |
|---|---|---|
| Est. YE Tuit & Fees Over or (Short): | 255,349 | (Tuit Budget, less Actual / (10/12)) |
| Est. Savings Due to Exp Less than Budget: | 1,486,581 | (11.29% Exp Savings x Exp. Budget) |
| Est YE Total Net Income: | 1,741,929 | |
| FY-24 Beginning Fund Balance | 1,170,036 | |
| Est FY-24 Ending Fund Balance | 2,911,965 | |

***Note: As of 4/30/2024***

| | |
|---|---|
| *current + travel + equipmt encumbrance is:* | 160,396 |
| *salary & est, hrly and benefits encumbrance is:* | 829,447 |
| | 989,842 |

Date Prepared: 5/07/2024
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SLCC
Controller's Office

Information provided by SLCC Controller's Office on 5/9/2024

# SUPPLEMENTAL INFO

**Salt Lake Community College**
Interim - Income Statement (Unaudited)
Education and General Fund
As of April 30, 2024
83.33% of Year Has Elapsed

| | Orig. Budget | Rev. Budget | Actual YTD | Encumbered | % of Budget |
|---|---|---|---|---|---|
| **Revenues** | A | B | | | |
| State Appropriations | 129,532,300 | 130,322,300 | 108,427,627 | - | 83.20% |
| Tuition & Fees | 56,851,372 | 57,134,271 | 47,986,888 | - | 83.99% |
| Sales from Educ Depts | - | 25,000 | 35,187 | - | 140.75% |
| Other Sources | 500,000 | 426,589 | 12,357 | - | 2.90% |
| Total Revenues | 186,883,672 | 187,908,160 | 156,462,060 | | 83.27% |
| | | | | | |
| **Expenditures** | | | | | |
| Salaries | 81,814,229 | 79,070,812 | 62,996,208 | 12,236,465 | 95.15% |
| Wages | 27,737,641 | 27,382,964 | 22,472,476 | - | 82.07% |
| Employee Benefits | 45,231,224 | 42,376,964 | 32,583,159 | - | 76.89% |
| Current Expenses | 26,522,314 | 30,760,493 | 21,778,827 | 5,550,988 | 88.85% |
| Travel | 1,879,923 | 1,640,035 | 642,988 | 281,414 | 56.36% |
| Equipment | 3,698,341 | 2,847,132 | 1,561,952 | 335,845 | 66.66% |
| Transfers (In)/Out | - | 69,000 | 69,000 | - | 0.00% |
| Budget Hold | - | 3,760,759 | - | - | 0.00% |
| Total Expenditures | 186,883,672 | 187,908,160 | 142,104,609 | 18,404,712 | 75.62% |

| **Analysis** | |
|---|---|
| % of Total YTD Exp. to Total Revised Budget | 75.62% |
| | |
| FY-24 Beginning Fund Balance | $14,259,203 |
| | |
| Transfer to SLTC for Fuel and Power | (75,500) |
| | |
| Revised Total Expenses | 142,029,109 * |
| Revised % of Budget Used | 75.58% |
| Revised % of Budget Not Used | 7.75% |

| **Expenditures by Function** | |
|---|---|
| Instruction | 59,805,785 |
| Public Service | 364,526 |
| Academic Support | 10,803,935 |
| Student Services | 19,473,243 |
| Institutional Support | 32,964,228 |
| Operation of Plant | 17,621,295 |
| Scholarships | 1,002,598 |
| Transfers (In)/Out | 69,000 |
| Total Expenses by Function | 142,104,609 |

**Note(s):**

**A** - Ties to FY24 Appropriated Operating Base Budget for Education and General and Salt Lake Technical College Line Items. Educationally Disadvantaged Funds are held in the restricted index, 24000.

**B** - Ties to FY24 Budget in Banner Finance.

Date Prepared: 5/07/2024
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SLCC
Controller's Office

Information Provided by SLCC Controller's Office on 5/9/2024

# SUPPLEMENTAL INFO

**Salt Lake Community College**
Interim - Income Statement (Unaudited)
Salt Lake Technical College
As of April 30, 2024
83.33% of Year Has Elapsed

| | Orig. Budget | Rev. Budget | Actual YTD | Encumbered | % of Budget |
|---|---|---|---|---|---|
| **Revenues** | A | B | | | |
| State Appropriations | $11,912,400 | $11,912,400 | 10,163,480 | - | 85.32% |
| Tuition & Fees | 1,260,000 | 1,260,000 | 1,262,791 | - | 100.22% |
| Sales from Educ Depts | - | - | - | - | 0.00% |
| Other Sources | - | - | - | - | 0.00% |
| Total Revenues | 13,172,400 | 13,172,400 | 11,426,271 | | 86.74% |
| | | | | | |
| **Expenditures** | | | | | |
| Salaries | 5,247,660 | 5,289,241 | 3,920,220 | 829,447 | 89.80% |
| Wages | 3,504,325 | 3,230,824 | 2,191,151 | - | 67.82% |
| Employee Benefits | 2,901,275 | 2,980,683 | 2,055,097 | - | 68.95% |
| Current Expenses | 901,764 | (206,987) | 929,723 | 102,229 | -498.56% |
| Travel | 22,750 | 35,139 | 19,332 | 5,109 | 69.56% |
| Equipment | 594,626 | 491,197 | 299,397 | 53,058 | 71.75% |
| Transfers (In)/Out | - | - | - | - | 0.00% |
| Budget Hold | - | 1,352,303 | - | - | 0.00% |
| Total Expenditures | 13,172,400 | 13,172,400 | 9,414,919 | 989,842 | 71.47% |

| **Analysis** | |
|---|---|
| % of Total YTD Exp. to Total Revised Budget | 71.47% |
| | |
| FY-24 Beginning Fund Balance | 1,170,036 |
| | |
| Transfer to SLTC for Fuel and Power | 75,500 |
| | |
| Revised Total Expenses | 9,490,419 * |
| Revised % of Budget Used | 72.05% |
| Revised % of Budget Not Used | 11.29% |

| **Expenditures by Function** | |
|---|---|
| Instruction | 6,231,008 |
| Public Service | - |
| Academic Support | 629,662 |
| Student Services | 1,021,848 |
| Institutional Support | 865,476 |
| Operation of Plant | 500,923 |
| Scholarships | 166,003 |
| Transfers (In)/Out | - |
| Total Expenses by Function | 9,414,919 |

**Note(s):**

**A** - Ties to FY24 Appropriated Operating Base Budget for Education and General and Salt Lake Technical College Line Items. Educationally Disadvantaged Funds are held in the restricted index, 24000.

**B** - Ties to FY24 Budget in Banner Finance.

Date Prepared: 5/07/2024
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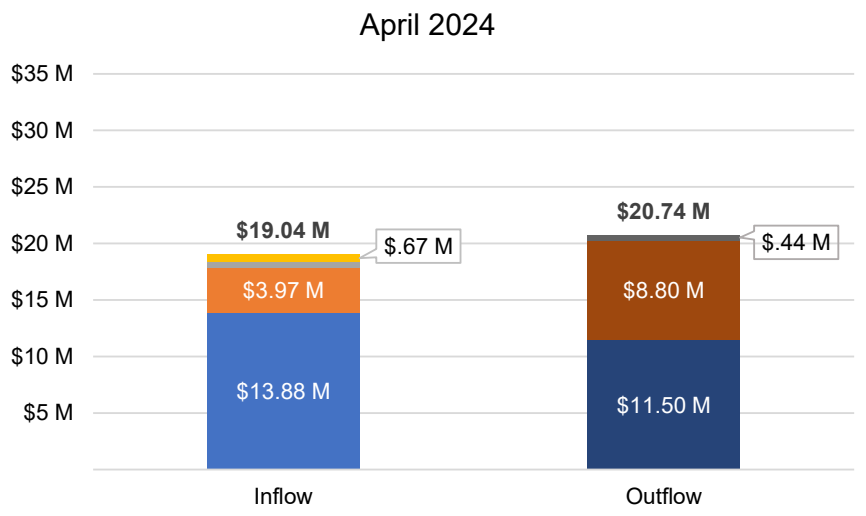
SLCC
Controller's Office

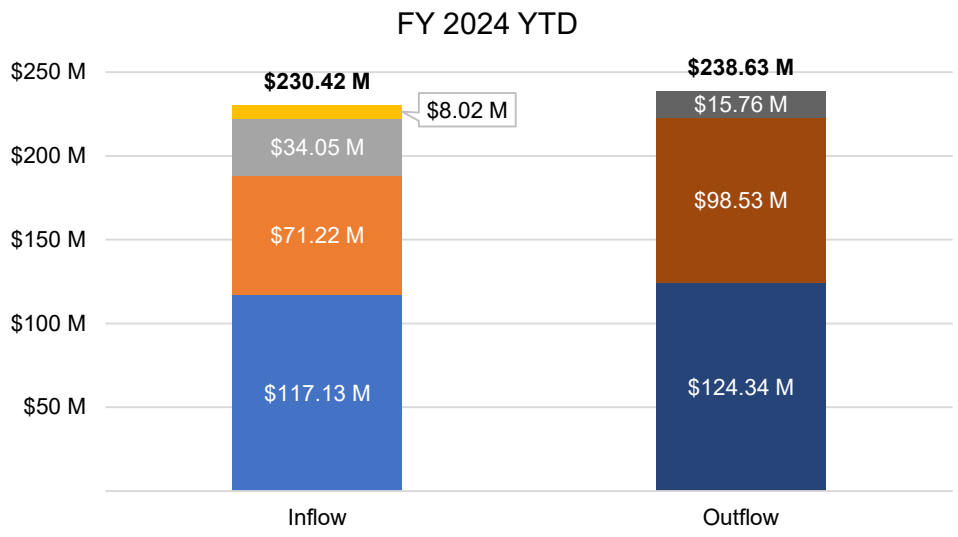
Information provided by SLCC Controller's Office on 5/9/2024

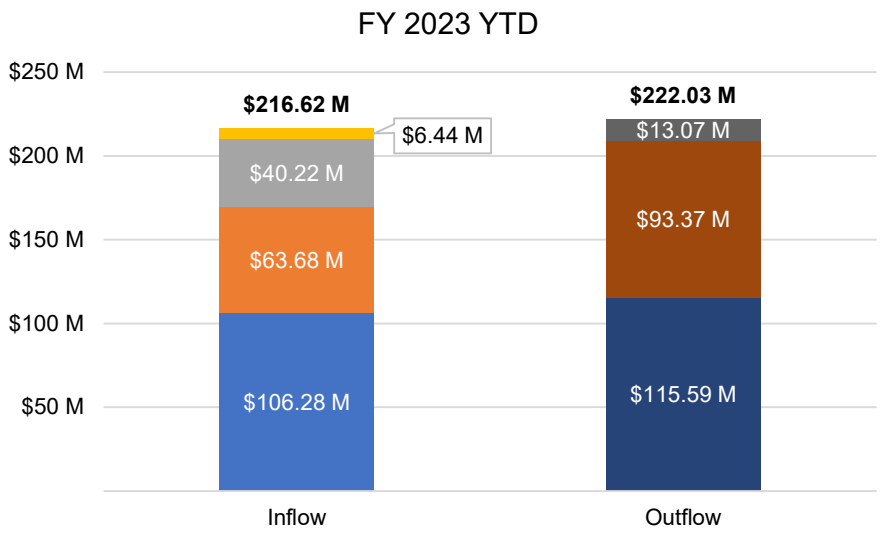
# TAB H

## Salt Lake Community College
### Cash Activity
### Month Ended 4/30/2024

| | April 2024 | FY2024 YTD | FY2023 YTD |
|---|---|---|---|
| State Appropriation | $ 13,879,830 | $ 117,126,619 | $ 106,277,851 |
| Tuition, Fees, & Charges for Services | 3,972,954 | 71,217,101 | 63,683,425 |
| U.S. Dept of Education Draws | 510,097 | 34,051,938 | 40,220,817 |
| Other | 674,379 | 8,024,115 | 6,439,732 |
| Total Inflows | 19,037,260 | 230,419,773 | 216,621,825 |
| | | | |
| Payroll | (11,500,326) | (124,338,441) | (115,591,680) |
| Payments to Suppliers | (8,269,979) | (88,443,925) | (79,564,879) |
| Payments for Debt Service | - | (1,498,766) | (1,489,176) |
| New Building Construction | (531,304) | (8,590,269) | (12,318,092) |
| Other | (440,826) | (15,758,433) | (13,066,246) |
| Total Outflows | (20,742,435) | (238,629,834) | (222,030,073) |
| **Cash Increase/(Decrease)** | **$ (1,705,175)** | **$ (8,210,061)** | **$ (5,408,248)** |



# TAB I

## Salt Lake Community College

*Surplus Property Historical Operations Report and Budget*

| | FY 2022 | FY 2023 | FY 2024* | Estimate FY 2025 |
|---|---|---|---|---|
| *Operating Revenue* | | | | |
| Sales Revenue | $192,779 | $200,790 | $142,131 | $200,000 |
| **Total Revenue** | $192,779 | $200,790 | $142,131 | $200,000 |
| *Operating Expenses* | | | | |
| Salaries & Wages | $161,156 | $235,087 | $250,977 | $258,506 |
| Benefits | 11,701 | 13,794 | 12,786 | 13,170 |
| Current Expense | 20,171 | 15,251 | 6,358 | 20,000 |
| Capital Equipment | 43,320 | 52,865 | - | - |
| Travel | 104 | 21 | - | 300 |
| Rental of Facilities | 73,629 | 80,598 | 90,584 | 98,737 |
| **Total Operating Expenses** | $310,081 | $397,616 | $360,705 | $390,713 |
| *Net Income/(Loss)* | (117,302) | (196,826) | (218,574) | (190,713) |
| *Subsidy - Education and General (E&G) Support* | | | | |
| Salaries, Wages, Current Expense | $173,021 | $20,663 | $19,563 | $20,000 |
| Warehouse Lease | 73,629 | 80,598 | 90,584 | 98,737 |
| **Total College Subsidy** | $ 246,650 | $ 101,261 | $ 110,147 | $ 118,737 |
| *Transfer In/(Out)* | | | | |
| Transfer to Purchase Vehicles | - | - | - | - |
| Transfer to Plant Fund for Operational Use | (149,776) | - | - | - |
| *Net Increase/ (Decrease) in Fund Balance* | (20,427) | (95,564) | (108,427) | (71,976) |
| *Beginning Fund Balance* | 360,623 | 340,196 | 244,631 | 136,204 |
| *Ending Fund Balance* | $340,196 | $244,631 | $136,204 | $64,229 |

Notes:
*Fiscal year 2024 transactions are represented as of May 22, 2024.
Required per Regent Policy R558 Surplus Property, Section 4.7.
Information provided by SLCC Controller's Office on May 22, 2024

**TAB J**

UTAH SYSTEM OF HIGHER EDUCATION

# MEMORANDUM

May 24, 2024

Brady Southwick, Board of Trustees Chair
c/o Sandra Lehman, Board of Trustees' Secretary
Salt Lake Community College
Taylorsville Redwood Campus
4600 S Redwood Rd / AAB405
Salt Lake City, UT 84123

## Peer Review Report and Commissioner's Office Assessment

Pursuant to Utah Code Annotated 53B-16-102(5)(b)(ii), below is the Peer Review Report and Commissioner's Office Assessment for the following program, which the Salt Lake Community College Board of Trustees will consider for approval:

**Associate of Applied Science in Commercial Music**

In accordance with Utah Board of Higher Education (UBHE) policy, Salt Lake Community College's proposal for an Associate of Applied Science in Commercial Music underwent peer review by members of the academic community of the Utah System of Higher Education (USHE). Written comments were received from Southern Utah University, Utah Tech, Utah State University, and Utah Valley University. Senior academic leaders and representatives from institutional provosts' offices also discussed the proposal during a Peer Review Meeting on May 15, 2024. The program has also been reviewed by staff in the Commissioner's Office.

The program will replace existing degrees in music recording technology and media music. Though the proposed degree is principally designed to prepare students to enter the labor market upon completion of the program, it is matched well with four-year programs at USHE institutions and will enable students to transfer and complete a bachelor's degree in two additional years of full-time study. Students will be prepared to work in sound technology, composition and songwriting, and performance, using the technological skills they learn in this program.

The proposal received support from all institutions. Utah Valley University expressed some concern about the ommission of Theory IV from the degree program, fearing it would put students behind in their progression towards a bachelor's degree in commercial music. Staff in the Commisioner's Office

wondered about the status of the other music degree programs at Salt Lake Community College. Salt Lake Community College responded to both queries:

1. The AAS in Commercial Music is principally intended to be a terminal degree program. Students may transfer to four-year programs, but it is designed for students to complete the program and be ready for employment in commerical music technical fields. For this reason, Theory IV is not necessary for students taking this track. If students want to go on to a four-year degree program, they will have opportunity to take Theory IV prior to transferring to a four-year program;
2. The Associate of Science in Music and the Associate of Music degree programs remain at Salt Lake Community College. This AAS in Commercial Music will not impact students who want degree programs in traditional music areas.

**Commissioner's Recommendation**

The proposal is now ready for consideration by the Salt Lake Community College Board of Trustees.

Please let us know if you have any questions regarding this report. If your Board approves the program, the institution's Chief Academic Officer will notify our office of your action so we can keep an accurate record of the programs available in the Utah System of Higher Education.

Thank you for giving this your attention.

Sincerely,

Geoffrey Landward
Commissioner of Higher Education

CC: Deneece G. Huftalin, President – Salt Lake Community College
Jason Pickavance, Interim Provost for Academic Affairs

**Attachments:**
**Peer Review Comments Transcript**
**R401 Program Proposal**

**Peer Review Transcript**
**MAY PRR - SLCC Associate of Applied Science in Commercial Music**

Steve Hood
Apr 26, 2024Apr 26 at 10:52am
Manage Discussion Entry
Salt Lake Community College
AAS in Commercial Music

The School of Arts, Communication, and Media proposes an Associate of Applied Science degree in Commercial Music. This new academic program will replace the existing degrees in music recording technology and media music. This restructure and new degree program clarifies degree pathways for students, making it easier for students to navigate choices in the program. It is also better matched to four-year programs at USHE institutions, making transfer a more streamlined process than it has been with the existing degree programs.

The AAS in Commercial Music will have three areas of emphasis:

1. Recording technology: students will be prepared to work in sound technology jobs in live performances, film, television, and other related areas;
2. Composition and songwriting: students will learn about score production, songwriting, and other commercial applications of music composition;
3. Performance: for students interested in instrumental and vocal musical performance.

Depending on the emphasis, students will complete between 65 and 68 credits to earn their degree. The AAS degree is warranted because the number of music courses required in the lower-division majors only allows room for a few general education courses. This does raise a question, however. Will SLCC be offering AA and/or AS degrees in these areas in the future? We understand the heavy concentration on music courses warranting the AAS degree designation, but it is desirable for music students to complete general education credits relatively early in their college studies. This is based upon a common occurrence of many music students' tendencies to drop and retake general education courses far more often than students in other majors. It could be that AA or AS programs in these areas will reduce the amount of time it takes some music students to complete their general education requirements.

This is a nice proposal. The proposers have done a great job in consolidating existing programs and clarifying pathways to completion for students.
ReplyReply to Comment

Debbie Ferguson
May 8, 2024May 8 at 5:07pm

Response from Jeffrey O'Flynn, Music Department Chair, UVU

SLCC has many of the music core classes that all USHE schools have agreed on. The transferability looks excellent and this would give students a good foundation to finish a BM in Commercial Music at UVU. We meet as USHE institutions every year (I chair that committee) to discuss transferability, and they are working with us to guarantee clear pathways for students.

Omitting Music Theory IV from the AAS core is a problem. I note that Theory IV is required for one emphasis, but not all of them. Graduating without that would put students who continue to a 4-year program behind the curve, especially if they start in the fall. Most schools only offer Theory IV in the spring. Students can't pass a sophomore review to get into upper-div courses without that credit or an exception from the department chair. It could set students back an entire year. Usually, to get a NASM-accredited degree you need to have the music core (theory and aural skills I-IV and Group Piano). I would suggest that SLCC look into this and perhaps consider aligning with NASM standards, though admittedly I don't know the AAS standards off the top of my head, just something to consider.

They already offer these as separate programs, so combining them into one program makes sense. I question the recent faculty retirements. If two just retired and one is being hired, are there resources to hire adjuncts to cover the load created by the new courses required for this degree?

Because the USHE institutions meet regularly and agree on articulations, I actually think having one program with tracks will help their students who choose to pursue a baccalaureate degree at UVU.

Rachel Lewis
TuesdayMay 14 at 7:43am

Response from Thomas Baggaley, Professor of Music:

AAS degrees are not primarily intended for transfer and, in fact, have designed these programs with those students in mind who do not intend to pursue a four-year degree. Particularly in the recording emphasis (previously the Music Recording Technology degree) we have had a number of students who intend to enter the workforce directly after graduation and have successfully done so. At the same time, we actively encourage students to continue their education after their time at SLCC and are grateful for our partners at the other USHE institutions who have helped continue to build on the musical foundation our students have acquired before transferring. The program design also has been done in an effort to improve the transfer experience for those students who do decide to continue and pursue a bachelor's degree in commercial music. It is a balance we have worked diligently toward.

With the changes that are happening in the General Education requirements, our intent this year is to add emphases to our existing AS Music degree to best support those students who intend to transfer after graduating from SLCC. One of those emphases may be in commercial music (this has not been decided yet), but in that case, students would probably wait until after transferring for much of their production experience (as is normally the case in four-year programs), because

even with the changes in General Education, we will only have 3-6 credits to work with beyond the basic music core of classes to start students toward any specific emphasis in a 4-year degree. As discussed and agreed upon by all of the USHE music programs in our majors meetings, we do intend to continue to explore the possibility of an Associate of Music degree that more closely mirrors the first two years of a four-year music program as currently implemented at the other USHE institutions. This AAS degree program is not that program, though, and it is primarily designed with the usual purpose of any AAS degree program - to give the students as much preparation as possible within two years for them to enter the workforce in their field of study.

Theory IV and SS/ET IV are required in both the Composition/Songwriting emphasis and the Performance emphasis. It is not required in the Recording Emphasis, although this is an improvement over what was previously required, as previously, our Music Recording Technology degree only required two semesters of music theory, etc. (Now recording students are required to complete at least three semesters.) In that emphasis, Music Theory IV and Sight Singing/Ear Training IV are an elective choices that count toward their degree, and students who intend to transfer and continue to pursue a bachelor's degree are counseled to choose that option to meet the requirements of their degree so that they will not be set back upon transfer to a four-year institution.

Samira Hall
May 9, 2024May 9 at 10:26am

Response provided by Dr. Timothy Francis, Associate Professor of the Music Department at Utah Tech University.

The proposal is sound, and the curriculum looks appropriate to the goals.

Rachel Lewis
TuesdayMay 14 at 7:44am

Thank you Dr. Francis and Utah Tech University for your support.

Camille Thomas
May 9, 2024May 9 at 10:54am

Colleagues,

I shared the proposal with my colleagues here at SUU. No significant questions or concerns were raised.

Overall, SUU supports the proposal, and we wish you the very best as you seek final approval for this new degree program.

Camille Thomas
Assistant Provost
Southern Utah University

Rachel Lewis
TuesdayMay 14 at 7:44am

Thanks, Southern Utah University for your endorsement.
Edited by Rachel Lewis on May 14 at 7:47am

**Utah System of Higher Education**
**New Academic Program Proposal**
**Cover/Signature Page - Full Template**

| | |
|---|---|
| **Institution Submitting Request:** | **Salt Lake Community College** |
| **Proposed Program Title:** | **Commercial Music** |
| **Are There New Emphases:** | Yes ☒ Student Emphasis Required ☐ |
| **Names of New Emphases (Separated by Commas):** | Recording Technology, Composition/Songwriting, Perf |
| **Sponsoring School, College, or Division:** | **School of Arts, Communication, and Media** |
| **Sponsoring Academic Department(s) or Unit(s):** | **Division of Communication and Performing Arts** |
| **Classification of Instructional Program Code[1] :** | **10.0203** |
| **Min/Max Credit Hours Required of Full Program:** | **65 / 68** |
| **Proposed Beginning Term[2]:** | **Fall 2024** |
| **Institutional Board of Trustees' Approval Date:** | **06/12/2024** |

**Program Type (check all that apply):**

| | |
|---|---|
| ☒ (AAS) | Associate of Applied Science Degree |
| ☐ (AA) | Associate of Arts Degree |
| ☐ (AS) | Associate of Science Degree |
| ☐ | Specialized Associate Degree (specify award type[3]: ) |
| ☐ | Other (specify award type[3]: ) |
| ☐ (BA) | Bachelor of Arts Degree |
| ☐ (BS) | Bachelor of Science Degree |
| ☐ (BAS) | Bachelor of Applied Science Degree |
| ☐ | Specialized Bachelor Degree (specify award type[3]: ) |
| ☐ | Other (specify award type[3]: ) |
| ☐ (MA) | Master of Arts Degree |
| ☐ (MS) | Master of Science Degree |
| ☐ | Specialized Master Degree (specify award type[3]: ) |
| ☐ | Other (specify award type[3]: ) |
| ☐ | Doctoral Degree (specify award type[3]: ) |
| ☐ | K-12 School Personnel Program |
| ☐ | Out of Service Area Delivery Program ☐ Attached MOU |
| ☐ | Out of Mission Program |

[1] For CIP code classifications, please see http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55.

[2] "Proposed Beginning Term" refers to first term after Regent approval that students may declare this program.

[3] Please indicate award such as APE, BFA, MBA, MEd, EdD, JD

| | |
|---|---|
| ☐ | NEW Professional School |

**Changes to Existing Programs or Administrative Units Required (check all that apply, if any):**

| | |
|---|---|
| ☒ | Program Restructure with or without Consolidation |
| ☐ | Emphases transfer from another program or academic unit |
| ☐ | Name Change of Existing Program or Academic Unit |
| ☐ | Program transfer to a different academic unit |
| ☐ | Suspension or discontinuation of a unit or program |
| ☐ | Reinstatement of a previously suspended/discontinued program or administrative unit |
| ☐ | Other |

**Describe Above Changes**

The existing Music Recording Technology and Media Music AAS degrees are being consolidated into a single degree program with emphases in recording technology, composition/songwriting and performance. The purpose is to simplify the music offerings at SLCC to make it easier for students to navigate the choices available to them. Assessment of the music program has found that several students entering the program each year have been misunderstanding the difference between the existing programs, causing them to enroll in a program that does not align well with their career goals. Restructuring the program in this way and naming the emphases in a clearer manner will help to avoid this for future students. The proposed changes also serve to better align SLCC's terminology and course offerings with similar programs offered at other USHE schools.

**Chief Academic Officer (or Designee) Signature**:
I, the Chief Academic Officer or Designee, certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

Rachel Divine Lewis; Associate Provost Date: April 2, 2024

☒ I understand that checking this box constitutes my legal signature.

**Utah System of Higher Education**
**Program Description - Full Template**

## Section I: The Request

**Salt Lake Community College requests approval to offer the following Associate's degree(s): Commercial Music effective Fall 2024. This program was approved by the institutional Board of Trustees on 06/12/2024.**

## Section II: Program Proposal

### Program Description

*Present a complete, formal program description.*

The Commercial Music Associate of Applied Science (AAS) degree is a hands-on technical and artistic program that prepares students for careers in the commercial music industry by providing them with the creative skills to perform high level tasks in that industry, the basic financial and promotional skills to function as entrepreneurs, and the opportunity to build a portfolio of projects that demonstrate their proficiency. Emphases are offered in recording technology, composition/songwriting, and performance.

In the recording technology emphasis, students develop the requisite skills and technical knowledge to install and maintain audiovisual equipment and to make professional quality audio recordings for a variety of media (film, television, radio, commercial recordings, computer games, etc.) with a primary focus on recorded music production. Sound engineers perform a wide variety of tasks. Their duties include setting up, operating, and maintaining the electronic audio equipment used in nearly all radio and television broadcasts, concerts, plays, sound recordings, and movies. They also install and maintain audiovisual equipment in businesses, schools, homes, performance venues, and other settings. There are many specialized occupations in this field.

In the composition/songwriting emphasis, students prepare to work professionally as music producers, composers, songwriters and/or arrangers in the music and multimedia industries. They receive training and gain experience creating music using electronic and acoustic instruments for a variety of professional applications including but not limited to commercial music productions across multiple popular and artistic genres, film and television scores, jingles and music for commercials, and music for video games and other multimedia projects. They compose music with and without lyrics for a variety of commercial uses.

In the performance emphasis, students work to master performance skills as professional instrumentalists and/or singers. The receive private instruction on their instrument (or voice) and practice and perform both individually and as members of ensembles of various sizes in both live and studio settings. They also develop skills in artist management and promotion and learn processes and technologies associated with live and recorded performance production.

Regardless of the emphasis chosen, the program combines a solid foundation in traditional musical and technical instruction with opportunities to gain hands-on experience working on projects modeled after those regularly encountered by professionals in the music and multimedia production industries. These students are also encouraged to take advantage of opportunities to collaborate with students from other programs, such as film or animation, as a part of their education and training.

### Consistency with Institutional Mission

*Explain how the program is consistent with the institution's Regents-approved mission, roles, and goals (see mission and roles at higheredutah.org/policies/policyr312) or, for "out of mission" program requests, the rationale for the request.*

Just as with the existing AAS Media Music and AAS Music Recording Technology degrees, the proposed AAS Commercial Music degree is consistent with SLCC's mission to engage and support students in educational pathways leading to successful transfer and meaningful employment. The program's primary focus is on preparing students to successfully enter the workforce in the music and recording industries by providing them with the basic skills necessary for music and recording professionals and providing them with opportunities to engage and network with local industry professionals from the community.

## Section III: Needs Assessment

### Program Rationale

*Describe the institutional procedures used to arrive at a decision to offer the program. Briefly indicate why such a program should be initiated. State how the institution and the USHE benefit by offering the proposed program.*

SLCC was the first USHE school to receive approval to offer a pathway in its program specifically for students desiring to pursue careers in commercial music. To date, the existing AAS Media Music and AAS Music Recording Technology programs have successfully helped students to start careers in live performance sound reinforcement, sound design and music composition for film and television, sound effects design and music composition for video games, and commercial music production and performance, to name just a few pathways. Other students have found success continuing their educations by transferring to various other USHE music programs, building on the skills learned at SLCC by pursuing bachelors degrees and even masters degrees in commercial music, music technology, and more traditional music disciplines such as music education, composition, or performance, even though these AAS programs were not designed as transfer degrees.

The consolidation of these programs into a single Commercial Music degree with emphases in Recording Technology, Composition/Songwriting, and Performance represents a refinement of these existing programs based on changes in the music industry, assessment of the existing programs, and of student-expressed career goals. This refinement is designed to improve student retention, clarify student pathways to graduation by drawing a clearer line between emphases and career goals, and enhance student preparation for entering the workforce. It also streamlines the music program's offerings and leverages resources by attempting to maximizing overlap of course requirements between the different emphases without negatively impacting student preparation for success in their fields. The changes introduced also bring the program more into alignment in terms of terminology and course requirements with the commercial music bachelor's degree programs at other USHE institutions that have been introduced since the original Media Music and Music Recording Technology degrees were approved over a decade ago. Although this program's primary focus is still on preparing students to enter directly into the workforce as contributing members of the music and recording industries, this will benefit those students who choose to continue their educations at other USHE institutions by allowing them to more easily transfer more of their credits to the receiving institution.

### Labor Market Demand

*Provide local, state, and/or national labor market data that speak to the need for this program. Occupational demand, wage, and number of annual openings information may be found at sources such as Utah DWS Occupation Information Data Viewer (jobs.utah.gov/jsp/wi/utalmis/gotoOccinfo.do) and the Occupation Outlook Handbook (www.bls.gov/oco).*

The commercial music industry is expanding and is projected to continue for at least the next decade. As an industry, it has experienced and continues to experience major structural changes, which means that there are plenty of opportunities for entrepreneurs in this market. According to Goldman Sachs, global revenue for recorded music is forecast to grow 7.5% in 2023, which is higher than the 7.3% that was originally forecast), with a compound annual growth rate of 8.6% for 2023 to 2030 (see https://www.goldmansachs.com/intelligence/page/music-

streaming-services-are-on-the-cusp-of-major-structural-change.html). According to the U.S. Bureau of Labor statistics, projected employment for "Broadcast, sound, and video technicians" is average (2% increase) over the next ten years. "Entertainers and performers" are expected to experience a 6% increase, while "Music directors and composers" are expected to experience a modest increase similar to that of sound technicians. Because many of the opportunities in this industry are for freelance musicians and recording engineers, rather than salaried employee positions, SLCC's program includes training in music entrepreneurship and pursuing freelance work.

Specific segments within the industry, have an even brighter outlook however. According to the World Economic Forum, the global video game industry, for instance, has been booming and is expected to grow to $321 billion by 2026 (see https://www.weforum.org/agenda/2022/07/gaming-pandemic-lockdowns-pwc-growth/). The impact of the growth of this industry has had on music and audio students is best demonstrated by a 2013 USA Today report that over the previous decade, the third-fastest growing occupation over the previous 10 years had been "Music Directors and Composers" with 10-year job growth of 178% (see https://www.usatoday.com/story/money/business/2013/09/02/10-fastest-growing-jobs-in-usa/2750169/) - something that clearly no one had foreseen. A GameSoundCon article (https://www.gamesoundcon.com/composer-employment-report) attributed this growth to the rise in computer and social online gaming. Of course, that is 10-year-old data now. What is the current state of game audio professionals (both composers and sound engineers)? According to the Game Audio Industry Survey, completed in August of 2023, the average employee salary of game audio professionals was $128,511, up from $115,088 in 2021. The average income for freelance game audio professionals was $80,788, up from $56,201 two years previous. One in five employees at game companies compose music as at least part of their responsibilities. And - emphasizing the increased importance of education in the industry - more than 90% of new hires in game audio in 2023 had degrees, with one in four hires having a major or minor specifically in game audio. Incidentally, SLCC is the only USHE school that offers classes in interactive music and/or interactive audio design (a requirement in both the composition/songwriting emphasis and the recording technology emphasis).

**Student Demand**

*Provide evidence of student interest and demand that supports potential program enrollment. Use Appendix D to project five years' enrollments and graduates. Note: If the proposed program is an expansion of an existing program, present several years enrollment trends by headcount and/or by student credit hours that justify expansion.*

Music programs across the United States have increasingly added a commercial music component to their offerings. When the original Media Music and Music Recording Technology degrees were proposed in 2011-12, no USHE schools were offering commercial music or music technology degree programs. Most of the music programs in the state were focusing on traditional music offerings, primarily focusing on music education. Since that time, Snow College, Utah Valley University, and Southern Utah University have all added commercial music programs to their offerings. Southern Utah University has also begun offering a master's degree in music technology. The University of Utah offers a minor in music technology, and Weber State University offers an AS in Sound Production/Recording. A similar expansion can be observed across the United States. This is in response to an increasing demand across the country for training in commercial music and music technology.

For instance, attendance at a conference for aspiring audio professionals and composers for the video game industry (GameSoundCon) in October 2023 experienced a 50% increase in attendance over the previous year, with in-person attendance for the conference completely sold out. In 2020, Billboard Magazine noted that one major music business program had seen a 175% increase in enrollment over 2017 despite the pandemic (see https://www.billboard.com/music/music-news/billboard-top-music-business-schools-2020-list-9365285/). SLCC's own music program enrollment grew significantly in size once it began offering the Media Music and Music Recording Technology degrees. Despite struggling with visibility in the community - one of the most common statements made about the program by visitors and even SLCC students in other programs is "I had no idea this was here" - SLCC enrollment in commercial music classes, especially first semester courses in the program, remains strong. The

primary way that students are finding the program is word of mouth from students who are already in or have already completed the program.

**Similar Programs**

*Are similar programs offered elsewhere in the USHE, the state, or Intermountain Region? If yes, identify the existing program(s) and cite justifications for why the Regents should approve another program of this type. How does the proposed program differ from or compliment similar program(s)?*

As mentioned previously, the AAS Media Music and AAS Music Recording Technology degree programs were the first approved commercial music-focused programs in USHE. The AAS Commercial Music program is a consolidation of those two programs into a single degree offering with specific emphases in these areas. Snow College, Utah Valley University, and Southern Utah University have all added commercial music programs to their offerings. Southern Utah University has also begun offering a master's degree in music technology. The University of Utah offers a minor in music technology, and Weber State University offers an AS in Sound Production/ Recording.

Among all of these programs, the SLCC program is unique for a number of reasons. First, in terms of facilities, the program features a built-from-the-ground-up state of the art recording studio with 48-channel SSL mixing board and multiple mixing/editing bays, giving students the hands-on opportunity to work with professional-level equipment on professional-quality projects. The recording studio is one of the most often used facilities in SLCC's Center for Arts and Media. Further, SLCC's program is structured to maximize opportunities for students to collaborate with students from other programs, like SLCC's film or animation programs, on multimedia projects. The music program is part of the performing arts department and is housed in the same facility as SLCC's other arts programs. SLCC's television and film sound stages are just down the hall from the recording facility, and students from both programs often take classes together. SLCC faculty work together constantly to create opportunities for these kinds of collaborations between students. Finally, SLCC's offerings in interactive audio are particularly unique, as students learn to create music and sound effects for video games and other interactive applications - specific training not currently available at any other USHE institution. These are among a number of classes taught historically by faculty who not only have advanced degrees in music and audio but also bring industry experience to help their students' pursuit of employment. This hands-on, career-based approach to music instruction has been a valuable asset for music students in the program for more than a decade, whether they immediately enter the workforce or they transfer to another institution to continue their educational pursuits.

**Collaboration with and Impact on Other USHE Institutions**

*Indicate if the program will be delivered outside of designated service area; provide justification. Service areas are defined in higheredutah.org/policies/policyr315/ . Assess the impact the new program will have on other USHE institutions. Describe any discussions with other institutions pertaining to this program. Include any collaborative efforts that may have been proposed.*

As this is a consolidation of two existing programs at SLCC, the impact on other USHE institutions will be minimal. SLCC music faculty are currently in discussion with other USHE institutions that offer Commercial Music bachelor's degrees to formalize articulation for students who choose to transfer and continue to pursue their educations in music. Core music classes, such as music theory and aural skills classes, are already articulated among all USHE music programs during annual majors meetings and use a common numbering system to facilitate smooth transition and transfer.

**External Review and Accreditation**

*Indicate whether external consultants or, for a career and technical education program, program advisory committee were involved in the development of the proposed program. List the members of the external consultants or advisory committee and briefly describe their activities. If the program will seek special professional accreditation, project anticipated costs and a date for accreditation review.*

SLCC music faculty are involved professionally in the music community and as such have consulted with their

colleagues in the industry both formally and informally on numerous occasions regarding the development of this program.

## Section IV: Program Details

### Graduation Standards and Number of Credits

*Provide graduation standards. Provide justification if number of credit or clock hours exceeds credit limit for this program type described in R401-3.11, which can be found at higheredutah.org/policies/R401.*

65-68 total credits (including 9 credits General Education - with additional Gen Ed requirements embedded in major required courses, 40-42 credits required core major courses, and 14-17 credits required emphasis-specific courses). Minimum allowable GPA for major and emphasis courses = 2.0.

### Admission Requirements

*List admission requirements specific to the proposed program.*

Salt Lake Community College is an open-enrollment college. Students wishing to enter the program need only to be enrolled as students at SLCC. Appropriate developmental classes are provided for students who lack prior musical training that would normally be expected to be able to perform college-level work in the discipline.

### Curriculum and Degree Map

*Use the tables in Appendix A to provide a list of courses and Appendix B to provide a program Degree Map, also referred to as a graduation plan.*

## Section V: Institution, Faculty, and Staff Support

### Institutional Readiness

*How do existing administrative structures support the proposed program? Identify new organizational structures that may be needed to deliver the program. Will the proposed program impact the delivery of undergraduate and/or lower-division education? If yes, how?*

Since this is a consolidation of two existing degree programs, organizational structures needed to deliver the program exist and are already functioning.

### Faculty

*Describe faculty development activities that will support this program. Will existing faculty/instructions, including teaching/ graduate assistants, be sufficient to instruct the program or will additional faculty be recruited? If needed, provide plans and resources to secure qualified faculty. Use Appendix C to provide detail on faculty profiles and new hires.*

Since this is a consolidation of two existing degree programs, the existing faculty are already prepared and teaching the required courses. Two full-time faculty in the program retired at the end of the 2022-23 academic year. The hiring process for a replacement full-time faculty member is currently under way.

### Staff

*Describe the staff development activities that will support this program. Will existing staff such as administrative, secretarial/ clerical, laboratory aides, advisors, be sufficient to support the program or will additional staff need to be hired? Provide plans and resources to secure qualified staff, as needed.*

This is a consolidation of two existing degree programs that were supported by the Division of Communication and Fine Arts at SLCC. The new replacement program will continue to be supported by division staff.

**Student Advisement**

*Describe how students in the proposed program will be advised.*

This is a consolidation of two existing degree programs, both of which were primarily supported by the same advisor from SLCC Academic Advising. The new replacement program will continue to be supported by this advisor.

**Library and Information Resources**

*Describe library resources required to offer the proposed program if any. List new library resources to be acquired.*

This is a consolidation of two existing degree programs. SLCC's library services will continue to support the new replacement program as it has in the past.

**Projected Enrollment and Finance**

*Use Appendix D to provide projected enrollment and information on related operating expenses and funding sources.*

## Section VI: Program Evaluation

**Program Assessment**

*Identify program goals. Describe the system of assessment to be used to evaluate and develop the program.*

The primary purpose of the commercial music program at Salt Lake Community College is to help students to develop the skills and habits that will give them a good start toward careers as professional musicians. The primary mechanism that will be used to assess the effectiveness of this program is the students' professional ePortfolios that they are required to prepare for review in the semester of their graduation. This ePortfolio should include their best work from the classes taken throughout their time at SLCC and demonstrate their preparedness to enter the music industry as a professional. These portfolios will be reviewed as an aggregate on an annual basis by music faculty to assess the effectiveness of the program overall and determine if there are areas of the program that need to be improved.

Additionally, each of the program's learning outcomes can be mapped to specific courses in the program. Each of these courses will be assessed specifically with regard to these learning outcomes to assure that the courses are playing the role that they ought to fill within the overall program. The course-to-outcome mapping is as follows:

Demonstrate an ability to contribute at a professional level to the production of both live and studio-recorded music for acoustic and electronic instruments with or without vocal parts.
**MUSC 2500**, **MUSC 1515**, **MUSC 1520**
Also MUSC 1540, MUSC 1530, MUSC 1560, MUSC 2540, performance ensembles, and private lessons (instrumental or vocal)

Demonstrate the ability to work in a collaborative team environment on professional-quality music projects for both musical and non-musical clients.
**MUSC 2500 and performance ensembles**

Demonstrate professional-level specialization in the music industry, including an understanding of how that specialization interacts with other specializations in the music production process.
**Emphasis-specific courses**
Also MUSC 2500
Demonstrate the appropriate entrepreneurial skills necessary for a freelance artist including but not limited to

portfolio development, networking, promotion/marketing and basic business bookkeeping.
**MUSC 1300, MUSC 1200, and MUSC 2200**

Demonstrate proficiency in academic understanding of the basic structures of music including the ability to compose and analyze music according to common theoretical practices generally accepted in the music industry.
**MUSC 1110, MUSC 1120, MUSC 2110, and MUSC 2120**
Also MUSC 1050, MUSC 1060, and MUSC 1540

Demonstrate proficiency in the ability to fluently read and write music notation in accordance with practices generally accepted in the music industry.
**MUSC 1100, MUSC 1130, MUSC 1140, MUSC 2130, MUSC 2140**
Also MUSC 1110, MUSC 1120, MUSC 2110, MUSC 2120, MUSC 1540, and MUSC 1060

Demonstrate proficiency in musical performance with appropriate expression, accuracy, and artistic value for works representing a variety of historical time periods and cultural backgrounds.
**Private lessons (instrumental or vocal) and performance ensembles**

Demonstrate understanding of the mathematic and scientific principles that are fundamental to the operation of the technology and tools used in the production of music commensurate with the student's music industry specialization.
**MUSC 1550, MUSC 1515, MUSC 1520, MUSC 1530, MUSC 1560, MUSC 1540, MUSC 2540, and MUSC 2500**

**Student Standards of Performance**

*List the standards, competencies, and marketable skills students will have achieved at the time of graduation. How and why were these standards and competencies chosen? Include formative and summative assessment measures to be used to determine student learning outcomes.*

Program learning outcomes were chosen as a representation of the skills necessary for success as music professionals.

Program learning outcomes are listed below. Students will:

Demonstrate proficiency and an ability to contribute at a professional level to the production of both live and studio-recorded music for acoustic and electronic instruments with or without vocal parts.

Demonstrate the ability to work in a collaborative team environment on professional-quality music projects for both musical and non-musical clients.

Demonstrate the development of a professional-level specialization in the music industry, including an understanding of how that specialization interacts with other specializations in the music production process.

Demonstrate the appropriate entrepreneurial skills necessary for a freelance artist including but not limited to portfolio development, networking, promotion/marketing and basic business accounting.

Demonstrate proficiency in academic understanding of the basic structures of music including the ability to compose and analyze music according to common theoretical practices generally accepted in the music industry.

Demonstrate proficiency in the ability to fluently read and write music notation in accordance with practices generally accepted in the music industry.

Demonstrate proficiency in musical performance with appropriate expression, accuracy, and artistic value for works representing a variety of historical time periods and cultural backgrounds.

Demonstrate proficiency and understanding of the mathematic and scientific principles that are fundamental to the operation of the technology and tools used in the production of music commensurate with the student's music industry specialization.

Assessment of these program learning outcomes will be performed both formatively, as part of class-specific assessment for courses designed to teach these specific skills, and summatively, with annual assessment of the portfolios of completed work presented by graduating students as part of their professional portfolio review in their final semester using a rubric that measures students performance on projects included in their portfolios against accepted professional standards.

**Appendix A: Program Curriculum**

*List all courses, including new courses, to be offered in the proposed program by prefix, number, title, and credit hours (or credit equivalences). Indicate new courses with an X in the appropriate columns. The total number of credit hours should reflect the number of credits required to be awarded the degree.*

*For variable credits, please enter the minimum value in the table for credit hours. To explain variable credit in detail as well as any additional information, use the narrative box at the end of this appendix.*

| | Course Number | NEW Course | Course Title | Credit Hours |
|---|---|---|---|---|
| | General Education Courses (list specific courses if recommended for this program on Degree Map) | | | |
| | | | **General Education Credit Hour Sub-Total** | 9 |
| | Required Courses | | | |
| + - | MUSC 0990 | | Recital Attendance (0 credit course - Must be taken 4 times) | 0 |
| + - | MUSC 1110 | | Music Theory I | 3 |
| + - | MUSC 1120 | | Music Theory II | 3 |
| + - | MUSC 1130 | | Sight Singing/Ear Training I | 1 |
| + - | MUSC 1140 | | Sight Singing/Ear Training II | 1 |
| + - | MUSC 1150 | | Group Piano I | 1 |
| + - | MUSC 1160 | | Group Piano II | 1 |
| + - | MUSC 1200 | | Introduction to the Music Industry | 1 |
| + - | MUSC 1300 | | Money & Creative Professionals | 1 |
| + - | MUSC 1515 | | Basic Audio Production | 3 |
| + - | MUSC 1520 | | Introduction to MIDI/Elec Music Comp | 3 |
| + - | | | Performance Ensemble (Must be taken 2 times) - see list of | 2 |
| + - | MUSC 2110 | | Music Theory III | 3 |
| + - | MUSC 2130 | | Sight Singing/Ear Training III | 1 |
| + - | MUSC 2500 | | Music Production Group (Must be taken 2 times) | 8 |
| + - | MUSC 2950 | | Professional Portfolio Review (to be taken during final semester | 0 |
| + - | MUSC 2540 | | Sampling, Synthesis & Sound Design | 2 |
| | | | Choose of the following courses: | |
| + - | | | | |
| + - | | | | |
| | | | | |
| | | | **Required Course Credit Hour Sub-Total** | 34 |
| | Elective Courses | | | |
| + - | | | | |
| | | | Choose of the following courses: | |
| + - | | | | |
| + - | | | | |
| | | | | |
| | | | **Elective Credit Hour Sub-Total** | 0 |
| | | | **Core Curriculum Credit Hour Sub-Total** | 43 |

*Can students complete this degree without emphases?* *Yes or* X *No*

| | Course Number | NEW Course | Course Title | Credit Hours |
|---|---|---|---|---|
| | Name of Emphasis: | | Recording Technology | |
| + - | MUSC 1530 | | Music Recording Techniques | 4 |
| + - | MUSC 1550 | | Musical Acoustics | 3 |
| + - | MUSC 1560 | | Music Mixing Techniques | 3 |
| + - | MUSC 2580 | | Audio Production and Mixing for Live Performance | 3 |
| + - | | | Private Vocal or Instrumental Lessons (Must be taken 2 times) – see | 2 |
| | | | Choose 1 of the following courses: | |
| + - | FLM 2065 | | Motion Picture Sound | 4 |
| + - | MUSC 2570 | | Game Audio Design | 3 |
| + - | | | | |
| | | | | |
| | | | **Emphasis Credit Hour Sub-Total** | 22 |
| | | | **Total Number of Credits to Complete Program** | 65 |
| | Remove this emphasis | | | |

| | Course Number | NEW Course | Course Title | Credit Hours |
|---|---|---|---|---|
| | Name of Emphasis: | | Composition/Songwriting | |
| + - | MUSC 1050 | | Songwriting & Creative Process (FA) | 3 |
| + - | MUSC 1060 | | Songwriting II | 2 |
| + - | MUSC 1540 | | MIDI II/Media Music Comp | 3 |
| + - | MUSC 2350 | | Conducting Fundamentals | 2 |
| + - | MUSC 2510 | | Music Composition for Games and Interactive Media | 3 |
| + - | MUSC 2520 | | Music Scoring for Film | 2 |
| + - | MUSC 2530 | X | Jingles and Music for Commercials | 2 |
| + - | | | Private Vocal or Instrumental Lessons (Must be taken 2 times) – see | 2 |
| | | | Choose of the following courses: | |
| + - | | | | |
| + - | | | | |
| + - | | | | |
| | | | | |
| | | | **Emphasis Credit Hour Sub-Total** | 19 |
| | | | **Total Number of Credits to Complete Program** | 62 |
| | Remove this emphasis | | | |

| | Course Number | NEW Course | Course Title | Credit Hours |
|---|---|---|---|---|
| | Name of Emphasis: | | Performance | |

| | Course Number | NEW Course | Course Title | Credit Hours |
|---|---|---|---|---|
| + - | MUSC 1050 | | Songwriting & Creative Process | 3 |
| + - | MUSC 2200 | X | Artist Promotion & Management | 3 |
| + - | MUSC 2350 | | Conducting Fundamentals | 2 |
| + - | MUSC 27X5 | | Private Vocal or Instrumental Lessons (Must be taken 2 times). see + | 4 |
| + - | MUSC 17X5 | | Private Vocal or Instrumental Lessons (Must be taken 2 times) – see + | 4 |
| + - | | | Performance Ensemble (2 additional times) | 2 |
| | | | Choose 2 of the following courses: | |
| + - | MUSC 1100 | | Intro to Music Theory | 2 |
| + - | MUSC 2550 | | Music Internship (Variable credit course – take for at least 2 credits) | 2 |
| + - | MUSC 2120 | | Music Theory IV | 3 |
| + - | MUSC 2140 | | Sight Singing/Ear Training IV | 1 |
| + - | MUSC 1060 | | Songwriting II | 2 |
| + - | MUSC 2530 | X | Jingles and Music for Commercials | 2 |
| + - | MUSC 1550 | | Musical Acoustics | 3 |
| | | | | |
| | | | **Emphasis Credit Hour Sub-Total** | 22 |
| | | | **Total Number of Credits to Complete Program** | 65 |
| | Remove this emphasis | | | |

**Program Curriculum Narrative**

*Describe any variable credits. You may also include additional curriculum information.*

Students may use any combination of MUSC 1350, MUSC 1360, MUSC 1370, MUSC 1380, MUSC 1390, MUSC 1450, MUSC 1460, MUSC 1470, MUSC 1480, or MUSC 1490 (including repeating any of these classes for credit - which is the normal case) to fulfill the vocal or instrumental performance ensemble requirements. Students may repeat any performance ensemble classes for credit in this degree program.

Recording Technology and Composition/Songwriting emphasis students may use MUSC 1310, MUSC 1712, MUSC 1715, MUSC 1722, MUSC 1725, MUSC 1732, MUSC 1735, MUSC 1742, MUSC 1745, MUSC 1752, MUSC 1755, MUSC 1762, MUSC 1765, MUSC 1772, MUSC 1775, MUSC 2712, MUSC 2715, MUSC 2722, MUSC 2725, MUSC 2732, MUSC 2735, MUSC 2742, MUSC 2745, MUSC 2752, MUSC 2755, MUSC 2762, MUSC 2765, MUSC 2772, or MUSC 2775 to complete their private vocal or instrumental lesson instruction.

Performance emphasis students may only use MUSC 1310, MUSC 1715, MUSC 1725, MUSC 1735, MUSC 1745, MUSC 1755, MUSC 1765, MUSC 1775, MUSC 2715, MUSC 2725, MUSC 2735, MUSC 2745, MUSC 2755, MUSC 2765, or MUSC 2775 to complete their private lesson instruction requirement, and completion of the private lesson requirement for performance emphasis students must include taking 2000-level lessons at least twice.

Vocal students should take MUSC 1310 before enrolling in MUSC 1752 or MUSC 1755. Private lessons courses,

except for MUSC 1310, may be taken more than once for credit. Students must pass a proficiency jury to advance to the second year (2000) level of private applied instruction in a particular instrument or voice.

MUSC 2950 represents a review by full-time music faculty of a professional portfolio representing the body of the student's work during their time at SLCC. Students should start working on this portfolio in their first semester at SLCC and should add material to this portfolio every semester that they are in residence. In their final semester, when they intend to graduate, students should register for MUSC 2950. A passing grade in MUSC 2950 represents that the students has successfully completed the portfolio review requirement for graduation.

**Degree Map**

*Degree maps pertain to undergraduate programs ONLY. Provide a degree map for proposed program. Degree Maps were approved by the State Board of Regents on July 17, 2014 as a degree completion measure. Degree maps or graduation plans are a suggested semester-by-semester class schedule that includes prefix, number, title, and semester hours. For more details see http://higheredutah.org/pdf/agendas/201407/TAB%20A%202014-7-18.pdf (Item #3).*

*Please cut-and-paste the degree map or manually enter the degree map in the table below.*

Recording Emphasis:

First Year

| Semester: | Semester: |
|---|---|
| Course Cr/Hr | Course Cr/Hr |
| MUSC 0990 0 | MUSC 0990 0 |
| MUSC 1110 3 | MUSC 1120 3 |
| MUSC 1130 1 | MUSC 1140 1 |
| MUSC 1150 1 | MUSC 1160 1 |
| MUSC 1200 1 | MUSC 1520 3 |
| MUSC 1300 1 | MUSC 1530 4 |
| MUSC 1515 3 | MUSC 1560 3 |
| MUSC 1550 3 | Private Lessons 1 |
| Private Lessons 1 | |
| Quantitative Studies (QS) 4 | |
| TOTAL 18 | TOTAL 16 |

Second Year

| Semester: | Semester: |
|---|---|
| Course Cr/Hr | Course Cr/Hr |
| MUSC 0990 0 | MUSC 0990 0 |
| MUSC 2110 3 | MUSC 2120 3 |
| MUSC 2130 1 | MUSC 2140 1 |
| MUSC 2500 4 | MUSC 2500 4 |
| MUSC 2540 2 | MUSC 2570 or FLM 2065 3 / 4 |
| Performance Ensemble 1 | MUSC 2580 3 |
| ENGL 1010 3 | MUSC 2950 0 |
| COMMUNICATION (CM) 3 | Performance Ensemble 1 |
| TOTAL 17 | TOTAL 15/16 |

Composition/Songwriting Emphasis

First Year

| Semester: | Semester: |
|---|---|
| Course Cr/Hr | Course Cr/Hr |
| MUSC 0990 0 | MUSC 0990 0 |
| MUSC 1050 3 | MUSC 1060 2 |
| MUSC 1110 3 | MUSC 1120 3 |
| MUSC 1130 1 | MUSC 1140 1 |
| MUSC 1150 1 | MUSC 1160 1 |
| MUSC 1200 1 | MUSC 1515 3 |
| MUSC 1300 1 | MUSC 1540 3 |
| MUSC 1520 3 | Private Lessons 1 |

| | |
|---|---|
| Private Lessons 1 | ENGL 1010 3 |
| Quantitative Studies (QS) 4 | |
| TOTAL 18 | TOTAL 17 |

Second Year

| Semester: | Semester: |
|---|---|
| Course Cr/Hr | Course Cr/Hr |
| MUSC 0990 0 | MUSC 0990 0 |
| MUSC 2110 3 | MUSC 2120 3 |
| MUSC 2130 1 | MUSC 2140 1 |
| MUSC 2500 4 | MUSC 2350 2 |
| MUSC 2520 2 | MUSC 2500 4 |
| MUSC 2530 2 | MUSC 2510 3 |
| MUSC 2540 2 | MUSC 2950 0 |
| Performance Ensemble 1 | Performance Ensemble 1 |
| | COMMUNICATION (CM) 3 |
| TOTAL 15 | TOTAL 17 |

Performance Emphasis

First Year

| Semester: | Semester: |
|---|---|
| Course Cr/Hr | Course Cr/Hr |
| MUSC 0990 0 | MUSC 0990 0 |
| MUSC 1110 3 | MUSC 1050 3 |
| MUSC 1130 1 | MUSC 1120 3 |
| MUSC 1150 1 | MUSC 1140 1 |
| MUSC 1200 1 | MUSC 1160 1 |
| MUSC 1300 1 | MUSC 1515 3 |
| MUSC 1520 3 | MUSC 2200 3 |
| Performance Ensemble 1 | Performance Ensemble 1 |
| Private Lessons 2 | Private Lessons 2 |
| Quantitative Studies (QS) 4 | |
| TOTAL 17 | TOTAL 17 |

Second Year

| Semester: | Semester: |
|---|---|
| Course Cr/Hr | Course Cr/Hr |
| MUSC 0990 0 | MUSC 0990 0 |
| MUSC 2110 3 | MUSC 2120 3 |
| MUSC 2130 1 | MUSC 2140 1 |
| MUSC 2500 4 | MUSC 2350 2 |
| MUSC 2540 2 | MUSC 2500 4 |
| Performance Ensemble 1 | MUSC 2950 0 |
| Private Lessons 2 | Performance Ensemble 1 |
| ENGL 1010 3 | Private Lessons 2 |
| | COMMUNICATION (CM) 3 |
| TOTAL 16 | TOTAL 16 |

## Appendix C: Current and New Faculty / Staff Information

Part I. Department Faculty / Staff

*Identify # of department faculty / staff (headcount) for the year preceding implementation of proposed program.*

| | # Tenured | # Tenure -Track | # Non -Tenure Track |
|---|---|---|---|
| Faculty: Full Time with Doctorate | 0 | 1 | 0 |
| Faculty: Part Time with Doctorate | 0 | 0 | 0 |
| Faculty: Full Time with Masters | 1 | 1 | 0 |
| Faculty: Part Time with Masters | 0 | 0 | 0 |
| Faculty: Full Time with Baccalaureate | 0 | 0 | 0 |
| Faculty: Part Time with Baccalaureate | 0 | 0 | 0 |
| Teaching / Graduate Assistants | | | 0 |
| Staff: Full Time | 0 | 0 | 0 |
| Staff: Part Time | 0 | 0 | 0 |

Part II. Proposed Program Faculty Profiles

*List current faculty within the institution -- with academic qualifications -- to be used in support of the proposed program(s).*

| | First Name | Last Name | Tenure (T) / Tenure Track (TT) / Other | Degree | Institution where Credential was Earned | Est. % of time faculty member will dedicate to proposed program. | If "Other," describe |
|---|---|---|---|---|---|---|---|
| Full Time Faculty | | | | | | | |
| | Thomas | Baggaley | T | C.Ph./M.A. | University of California, Los Angeles (UCLA) | 100 | |
| | Juan | Pereira | TT | D.M.A. | University of Michigan | 100 | |
| | Matt | Starling | TT | M.S. | Indiana University, Purdue University Indianapolis | 100 | |
| | | | | | | | |
| | | | | | | | |
| Part Time Faculty | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Part III: New Faculty / Staff Projections for Proposed Program

*Indicate the number of faculty / staff to be hired in the first three years of the program, if applicable. Include additional cost for these faculty / staff members in Appendix D.*

| | # Tenured | # Tenure -Track | # Non -Tenure Track | Academic or Industry Credentials Needed | Est. % of time to be dedicated to proposed program. |
|---|---|---|---|---|---|
| Faculty: Full Time with Doctorate | 0 | 0 | 0 | | |
| Faculty: Part Time with Doctorate | 0 | 0 | 0 | | |
| Faculty: Full Time with Masters | 0 | 0 | 0 | | |
| Faculty: Part Time with Masters | 0 | 0 | 0 | | |
| Faculty: Full Time with Baccalaureate | 0 | 0 | 0 | | |
| Faculty: Part Time with Baccalaureate | 0 | 0 | 0 | | |
| Teaching / Graduate Assistants | | | 0 | | |
| Staff: Full Time | 0 | 0 | 0 | | |
| Staff: Part Time | 0 | 0 | 0 | | |

## Appendix D: Projected Program Participation and Finance

**Part I.**

*Project the number of students who will be attracted to the proposed program as well as increased expenses, if any. Include new faculty & staff as described in Appendix C.*

| **Three Year Projection**: Program Participation and Department Budget | | | | | | |
|---|---|---|---|---|---|---|
| | Year Preceding Implementation | New Program | | | | |
| | | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| **Student Data** | | | | | | |
| # of Majors in Department | 135 | 135 | 140 | 145 | 145 | 150 |
| # of Majors in Proposed Program(s) | | 40 | 65 | 85 | 90 | 95 |
| # of Graduates from Department | 31 | 31 | 31 | 31 | 35 | 40 |
| # Graduates in New Program(s) | | 0 | 0 | 15 | 15 | 15 |
| **Department Financial Data** | | | | | | |
| | Department Budget | | | | | |
| | Year Preceding Implementation (Base Budget) | Year 1 Addition to Base Budget for New Program(s) | Year 2 Addition to Base Budget for New Program(s) | Year 3 Addition to Base Budget for New Program(s) | | |
| *Project additional expenses associated with offering new program(s). Account for New Faculty as stated in Appendix C, "Faculty Projections."* | | | | | | |
| **EXPENSES –** nature of additional costs required for proposed program(s) | | | | | | |
| *List salary benefits for additional faculty/staff each year the positions will be filled. For example, if hiring faculty in year 2, include expense in years 2 and 3. List one-time operating expenses only in the year expended.* | | | | | | |
| Personnel (Faculty & Staff Salary & Benefits) | $404,009 | $12,120 | $12,483 | $12,858 | | |
| Operating Expenses (equipment, travel, resources) | $42,000 | | | | | |
| Other: | | | | | | |
| **TOTAL PROGRAM EXPENSES** | | $12,120 | $12,483 | $12,858 | | |
| **TOTAL EXPENSES** | $446,009 | $458,129 | $458,492 | $458,867 | | |
| **FUNDING –** source of funding to cover additional costs generated by proposed program(s) | | | | | | |
| *Describe internal reallocation using Narrative 1 on the following page. Describe new sources of funding using Narrative 2.* | | | | | | |
| Internal Reallocation | | | | | | |
| Appropriation | $312,207 | $8,484 | $8,739 | $9,001 | | |
| Special Legislative Appropriation | | | | | | |
| Grants and Contracts | | | | | | |
| Special Fees | | | | | | |
| Tuition | $133,802 | $3,637 | $3,746 | $3,857 | | |
| Differential Tuition (requires Regents approval) | | | | | | |
| **PROPOSED PROGRAM FUNDING** | | $12,121 | $12,485 | $12,858 | | |
| **TOTAL DEPARTMENT FUNDING** | $446,009 | $458,130 | $458,494 | $458,867 | | |
| **Difference** | | | | | | |
| Funding - Expense | $0 | $1 | $2 | $0 | | |

**Part II:** Expense explanation

## Expense Narrative

*Describe expenses associated with the proposed program.*

Faculty expenses are already existing program lines. Additional personal costs reflect the approved compensation increase for 2024 (Year 1) and an estimated compensation increase at 3.0% each subsequent year. No additional funding is needed for this consolidated AAS degree.

**Part III:** Describe funding sources

## Revenue Narrative 1

*Describe what internal reallocations, if applicable, are available and any impact to existing programs or services.*

At this time 70% for Appropriation and 30% for tuition for 1000 and 2000 level courses was used.

## Revenue Narrative 2

*Describe new funding sources and plans to acquire the funds.*

There are no specific plans to solicit additional funds outside the institutional allocations.

TAB K

UTAH SYSTEM OF HIGHER EDUCATION

# MEMORANDUM

May 24, 2024

Brady Southwick, Board of Trustees Chair
c/o Sandra Lehman, Board of Trustees' Secretary
Salt Lake Community College
Taylorsville Redwood Campus
4600 S Redwood Rd / AAB405
Salt Lake City, UT 84123

## Peer Review Report and Commissioner's Office Assessment

Pursuant to Utah Code Annotated 53B-16-102(5)(b)(ii), below is the Peer Review Report and Commissioner's Office Assessment for the following program, which the Salt Lake Community College Board of Trustees will consider for approval:

**Associate Science in Earth and Environmental Science**

In accordance with Utah Board of Higher Education (UBHE) policy, Salt Lake Community College's proposal for an Associate of Science in Earth and Environmental Science underwent peer review by members of the academic community of the Utah System of Higher Education (USHE). Written comments were received from Southern Utah University, the University of Utah, Weber State University, Utah State University, and Utah Valley University. Senior academic leaders and representatives from institutional provosts' offices also discussed the proposal during a Peer Review Meeting on May 15, 2024. The program has also been reviewed by staff in the Commissioner's Office.

The proposed program will replace existing AS degree programs in Atmosptheric Science, Geographic Information Systems, and Geology. The single degree in Earth and Environmental Science will have four emphasis options for students to choose from:

1. Atmospheric and Climate Science
2. Geology
3. Geographic Information Systems
4. Ecosystem Science

Each program emphasis is interdisciplinary. The emphases also align with existing four-year degree programs in USHE institutions and articulation agreements have been designed so students can transfer and complete bachelors degrees in a timely fashion.

Sister institutions commended the proposers for the fine job they did in redesigning the degree programs in the Department. All are supportive of this proposed degree program.

**Commissioner's Recommendation**

The proposal is now ready for consideration by the Salt Lake Community College Board of Trustees.

Please let us know if you have any questions regarding this report. If your Board approves the program, the institution's Chief Academic Officer will notify our office of your action so we can keep an accurate record of the programs available in the Utah System of Higher Education.

Thank you for giving this your attention.

Sincerely,

Geoffrey Landward
Commissioner of Higher Education

CC: Deneece G. Huftalin, President – Salt Lake Community College
Jason Pickavance, Interim Provost for Academic Affairs

**Attachments:**
**Peer Review Comments Transcript**
**R401 Program Proposal**

**Peer Review Transcript**
**MAY PRR - SLCC Associate of Science in Earth & Environmental Science**

Steve Hood
Apr 26, 2024Apr 26 at 10:52am
Salt Lake Community College
AS in Earth and Environmental Science

The School of Science, Mathematics, and Engineering proposes the creation of an Associate of Science Degree in Earth and Environmental Science. This degree program will replace the existing AS degree programs in Atmospheric Science, Geographic Information Systems, and Geology. The single degree in Earth and Environmental Science will have four emphasis options for students to choose from:

1. Atmospheric and Climate Science
2. Geology
3. Geographic Information Systems
4. Ecosystem Science

Each program emphasis is interdisciplinary. The programs are aligned with existing degree programs in USHE institutions and articulation agreements have been worked out so students can transfer and complete four-year degrees in a timely fashion. SLCC worked very closely with the UU as the latter redesigned major programs in their department.

The program consists of 61 credits. Each emphasis requires the completion of an Environmental Science course and the Introduction to GIS course. Interdisciplinary courses for the emphases come from biology, chemistry, and other specific courses appropriate to the emphases.

Proposers have done a very good job in redesigning the degree programs in the Department. This has been a challenging task, given that so many changes are underway at the College. These program changes clarify pathways for students and update transfer options. We commend SLCC for their hard work in revising these programs.

Rachel Lewis
TuesdayMay 14 at 7:48am

Thank you for your feedback. We look forward to our continued partnerships.
~ R. Adam Dastrup, MA, GISP, Professor, Earth and Environmental Science
Edited by Rachel Lewis on May 14 at 7:54am

Debbie Ferguson
May 8, 2024May 8 at 5:11pm

Response from Weihong Wang, Earth Science Department Chair, UVU
I reviewed the proposals and feel excited about these programs. I can see the possibility to establish transfer pathways between SLCC and UVU.

Response from Daniel Horns, College of Science Dean, UVU
The proposed program looks good to me.

Rachel Lewis
TuesdayMay 14 at 7:50am

Thanks Drs. Wang and Horns, We are excited to create stronger transfer pathways with UVU.
~ R. Adam Dastrup, MA, GISP, Professor, Earth and Environmental Science

Camille Thomas
May 9, 2024May 9 at 10:57am

Colleagues,

I shared the proposal with my colleagues here at SUU. No significant questions or concerns were raised. Jason Kaiser, Department Chair of Geosciences, stated that
The SLCC curriculum meets the standards of each degree area and aligns with the upper-division curriculum of the University of Utah and other USHE institutions.

While the proposal is meant to align with the University of Utah curriculum, transferring to other USHE institutions would be easy.

Overall, SUU supports the proposal, and we wish you the very best as you seek final approval for this new degree program.

Camille Thomas
Assistant Provost
Southern Utah University

Rachel Lewis
TuesdayMay 14 at 7:52am

Thank you. We look forward to stronger articulation pathways for students to SUU with this new degree.
~ R. Adam Dastrup, MA, GISP, Professor, Earth and Environmental Science

cao@utah.edu
MondayMay 13 at 9:23am

We appreciate the work already completed to assist transfer students who wish to come to the University of Utah. As a side note, the GIS Emphasis within the Geography degree is in process of being discontinued.

Rachel Lewis
TuesdayMay 14 at 7:51am

Thank you for your comments and notification about the GIS emphasis. We look forward to updaintg our transfer articulation paths for students and our continued partnership.
~ R. Adam Dastrup, MA, GISP, Professor, Earth and Environmental Science

Gail Niklason
MondayMay 13 at 4:32pm

The proposal was shared with Michael Hernandez, Acting Chair - Department of Earth and Environmental Sciences. Mike is supportive of the proposed programs and has no concerns.
Gail Niklason
Institutional Effectiveness
Weber State University

Rachel Lewis
TuesdayMay 14 at 7:53am

Thanks for your support.
~ R. Adam Dastrup, MA, GISP, Professor, Earth and Environmental Science

Paul Barr
TuesdayMay 14 at 1:52pm

USU faculty have reviewed this proposal and are positive and supportive with the proposal. They felt transfer could be worked through. USU is supportive and wishes SLCC well.

Collapse SubdiscussionDavid Allred
David Allred
YesterdayMay 15 at 11:10am
Snow College supports this proposals and wishes SLCC the best with this revamped degree.

**Utah System of Higher Education**
**New Academic Program Proposal**
**Cover/Signature Page - Full Template**

| | |
|---|---|
| **Institution Submitting Request:** | **Salt Lake Community College** |
| **Proposed Program Title:** | **Earth & Environmental Science** |
| **Are There New Emphases:** | Yes ☒ Student Emphasis Required ☐ |
| **Names of New Emphases (Separated by Commas):** | Atmospheric & Climate Science, Ecosystems Science, |
| **Sponsoring School, College, or Division:** | **School of Science, Mathematics, and Engineering** |
| **Sponsoring Academic Department(s) or Unit(s):** | **Natural Sciences Dvisions** |
| **Classification of Instructional Program Code[1] :** | **40.0601** |
| **Min/Max Credit Hours Required of Full Program:** | **61 / 67** |
| **Proposed Beginning Term[2]:** | **Fall 2024** |
| **Institutional Board of Trustees' Approval Date:** | **06/12/2024** |

**Program Type (check all that apply):**

| | |
|---|---|
| ☐ (AAS) | Associate of Applied Science Degree |
| ☐ (AA) | Associate of Arts Degree |
| ☒ (AS) | Associate of Science Degree |
| ☐ | Specialized Associate Degree (specify award type[3]: ) |
| ☐ | Other (specify award type[3]: ) |
| ☐ (BA) | Bachelor of Arts Degree |
| ☐ (BS) | Bachelor of Science Degree |
| ☐ (BAS) | Bachelor of Applied Science Degree |
| ☐ | Specialized Bachelor Degree (specify award type[3]: ) |
| ☐ | Other (specify award type[3]: ) |
| ☐ (MA) | Master of Arts Degree |
| ☐ (MS) | Master of Science Degree |
| ☐ | Specialized Master Degree (specify award type[3]: ) |
| ☐ | Other (specify award type[3]: ) |
| ☐ | Doctoral Degree (specify award type[3]: ) |
| ☐ | K-12 School Personnel Program |
| ☐ | Out of Service Area Delivery Program ☐ Attached MOU |
| ☐ | Out of Mission Program |

[1] For CIP code classifications, please see http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55.

[2] "Proposed Beginning Term" refers to first term after Regent approval that students may declare this program.

[3] Please indicate award such as APE, BFA, MBA, MEd, EdD, JD

| | |
|---|---|
| ☐ | NEW Professional School |

**Changes to Existing Programs or Administrative Units Required (check all that apply, if any):**

| | |
|---|---|
| ☒ | Program Restructure with or without Consolidation |
| ☐ | Emphases transfer from another program or academic unit |
| ☐ | Name Change of Existing Program or Academic Unit |
| ☐ | Program transfer to a different academic unit |
| ☐ | Suspension or discontinuation of a unit or program |
| ☐ | Reinstatement of a previously suspended/discontinued program or administrative unit |
| ☐ | Other |

**Describe Above Changes**

Create a new AS degree for students by consolidating and discontinuing the Atmospheric Science, Geographic Information Systems, and Geology AS degrees.

**Chief Academic Officer (or Designee) Signature**:
I, the Chief Academic Officer or Designee, certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

Rachel Divine Lewis, Associate Provost Date: April 9, 2024

☒ I understand that checking this box constitutes my legal signature.

**Utah System of Higher Education**
**Program Description - Full Template**

## Section I: The Request

**Salt Lake Community College requests approval to offer the following Associate's degree(s): Earth & Environmental Science effective Fall 2024. This program was approved by the institutional Board of Trustees on 06/12/2024.**

## Section II: Program Proposal

### Program Description

*Present a complete, formal program description.*

The AS Earth and Environmental Science program emphasizes the collection, analysis, and interpretation of Earth and environmental system data using scientific inquiry. Students will learn foundational Earth and environmental science principles in these four emphasis areas – Atmospheric and Climate Science, Geology, Geographic Information Science (GIS), and Ecosystem Science. These principles may include identifying Earth materials and landforms; weather and climate systems; air and water pollution; the water, carbon, and rock cycles; ecosystem processes; natural hazards; data communication; human-natural system interactions; geographic information systems, and remote sensing. These skills will be applied to help solve real-world problems.

### Consistency with Institutional Mission

*Explain how the program is consistent with the institution's Regents-approved mission, roles, and goals (see mission and roles at higheredutah.org/policies/policyr312) or, for "out of mission" program requests, the rationale for the request.*

The new program of study is consistent with Salt Lake Community College's mission of inclusive and transformational education with structured and articulated pathways to most USHE four-year institutions.

## Section III: Needs Assessment

### Program Rationale

*Describe the institutional procedures used to arrive at a decision to offer the program. Briefly indicate why such a program should be initiated. State how the institution and the USHE benefit by offering the proposed program.*

Program prioritization at the directive of the Provost's Office. The new Earth and Environmental Science AS program of study is a consolidation of the Atmospheric Science, Geology, and Geographic Information Systems programs of study, with the addition of a new environmental component that matches other USHE institutions.

### Labor Market Demand

*Provide local, state, and/or national labor market data that speak to the need for this program. Occupational demand, wage, and number of annual openings information may be found at sources such as Utah DWS Occupation Information Data Viewer (jobs.utah.gov/jsp/wi/utalmis/gotoOccinfo.do) and the Occupation Outlook Handbook (www.bls.gov/oco).*

U.S. Bureau of Labor Statistics reports that Geoscientists have a 2022 median pay of $87, 480 per year with 26,300 jobs nationwide, including a 5% (faster than average) employment growth. For the state of Utah, the Department of Workforce Services reports that initial salaries for Geoscientists with a Bachelor's degree is $70k with median salaries closer to $100k and an annual growth just over 2%. The same source reports that the current employment number in the state under this category is 258. Other related fields have similar outlooks.

### Student Demand

*Provide evidence of student interest and demand that supports potential program enrollment. Use Appendix D to project five years' enrollments and graduates. Note: If the proposed program is an expansion of an existing program, present several years enrollment trends by headcount and/or by student credit hours that justify expansion.*

As this is is a consolidation of several programs of study that are currently part of the program with a reasonably steady and stable history of students, it is anticipated that there will at least be an enrollment typical of the sum of the previous programs that make this up including Geography, Geology, Atmospheric Sciences, and GIS. Further, SLCC had anecdotal evidence that students were taking courses piecemeal because of mismatches in four-year transfer alignment. This is geared to the newer four-year programs, and attempts to improve that alignment. As a result, the expectation is that enrollments will actually increase.

### Similar Programs

*Are similar programs offered elsewhere in the USHE, the state, or Intermountain Region? If yes, identify the existing program(s) and cite justifications for why the Regents should approve another program of this type. How does the proposed program differ from or compliment similar program(s)?*

The emphases withing the new program of study (ATMO, GEO, GEOG, and the new ENVS) already have articulation agreements within other USHE four-year institutions. The new program of study also aligns to the University of Utah's Earth and Environmental Science BS degree. Students seeking this new program of study will still be able to transfer to several USHE institutions at a Junior status. As a reminder, this new program of study is a consolidation of three existing programs of study that will also be discontinued.

### Collaboration with and Impact on Other USHE Institutions

*Indicate if the program will be delivered outside of designated service area; provide justification. Service areas are defined in higheredutah.org/policies/policyr315/ . Assess the impact the new program will have on other USHE institutions. Describe any discussions with other institutions pertaining to this program. Include any collaborative efforts that may have been proposed.*

The new program of study will be delivered within SLCC's service area. It will also provide direct transfer options for students going from two-year to four-year institutions within USHE.

### External Review and Accreditation

*Indicate whether external consultants or, for a career and technical education program, program advisory committee were involved in the development of the proposed program. List the members of the external consultants or advisory committee and briefly describe their activities. If the program will seek special professional accreditation, project anticipated costs and a date for accreditation review.*

Direct conversions occurred between faculty at SLCC and faculty at the University of Utah's Earth and Environmental Science department. As noted earlier, articulation agreements already exist within ATMO, GEO, GEOG, and ENVS within USHE.

## Section IV: Program Details

### Graduation Standards and Number of Credits

*Provide graduation standards. Provide justification if number of credit or clock hours exceeds credit limit for this program type described in R401-3.11, which can be found at higheredutah.org/policies/R401.*

Total number of minimum credits is 61 which meets SLCC graduation requirements for an AS degree.

### Admission Requirements

*List admission requirements specific to the proposed program.*

Admission to Salt Lake Community College is open entry for all students. There are no separate admission requirements for this degree.

### Curriculum and Degree Map

*Use the tables in Appendix A to provide a list of courses and Appendix B to provide a program Degree Map, also referred to as a graduation plan.*

## Section V: Institution, Faculty, and Staff Support

### Institutional Readiness

*How do existing administrative structures support the proposed program? Identify new organizational structures that may be needed to deliver the program. Will the proposed program impact the delivery of undergraduate and/or lower-division education? If yes, how?*

Because this is a restructuring of existing programs of study (ATMO, GEO, and GEOG) into one program of study that also includes ENVS, institutional readiness and support already exists.

### Faculty

*Describe faculty development activities that will support this program. Will existing faculty/instructions, including teaching/ graduate assistants, be sufficient to instruct the program or will additional faculty be recruited? If needed, provide plans and resources to secure qualified faculty. Use Appendix C to provide detail on faculty profiles and new hires.*

Existing full-time faculty within ATMO, BIOL, GEO, and GEOG will continue to teach and provide curriculum improvements and assessment to the new program of study.

### Staff

*Describe the staff development activities that will support this program. Will existing staff such as administrative, secretarial/ clerical, laboratory aides, advisors, be sufficient to support the program or will additional staff need to be hired? Provide plans and resources to secure qualified staff, as needed.*

Existing staff support and advising already exists.

### Student Advisement

*Describe how students in the proposed program will be advised.*

Students in the new program of study will be academically advised through existing processes.

### Library and Information Resources

*Describe library resources required to offer the proposed program if any. List new library resources to be acquired.*

Exiting library resources will continue to be supported and used in the new program of study.

## Projected Enrollment and Finance

*Use Appendix D to provide projected enrollment and information on related operating expenses and funding sources.*

## Section VI: Program Evaluation

## Program Assessment

*Identify program goals. Describe the system of assessment to be used to evaluate and develop the program.*

In partnership with the Outcomes and Assessment Office at SLCC, each course will be assessed in alignment with program learning outcomes every semester and reported to the institution as stated in NWCCU standards.

## Student Standards of Performance

*List the standards, competencies, and marketable skills students will have achieved at the time of graduation. How and why were these standards and competencies chosen? Include formative and summative assessment measures to be used to determine student learning outcomes.*

The program of study has the following learning outcomes that will be assessed annually:

1) Describe how the Earth and environmental systems, and their physical and biological components function and interact.
2) Analyze and interpret Earth and environmental data.
3) Create and communicate data via tables, graphs, and maps.
4) Predict the location, timing, severity, and potential impacts of natural hazards and anthropogenic environmental change.
5) Demonstrate an ability to find, assess, cite, and utilize credible scientific source in a professional and ethical manner.

Every emphasis area in the new program of study articulates to their four-year equivalent within USHE. Along with that, the Geographic Information Science emphasis aligns to the Department of Labor's Geospatial Technology Competency Model.

**Appendix A: Program Curriculum**

*List all courses, including new courses, to be offered in the proposed program by prefix, number, title, and credit hours (or credit equivalences). Indicate new courses with an X in the appropriate columns. The total number of credit hours should reflect the number of credits required to be awarded the degree.*

*For variable credits, please enter the minimum value in the table for credit hours. To explain variable credit in detail as well as any additional information, use the narrative box at the end of this appendix.*

| | Course Number | NEW Course | Course Title | Credit Hours |
|---|---|---|---|---|
| | General Education Courses (list specific courses if recommended for this program on Degree Map) | | | |
| | | | **General Education Credit Hour Sub-Total** | 34 |
| | Required Courses | | | |
| + - | ENVS 1400 | | Environmental Science (LS) | 3 |
| + - | GEOG 2500 | | Introduction to Geographic Information Systems | 3 |
| | | | | |
| | | | **Required Course Credit Hour Sub-Total** | 6 |
| | Elective Courses | | | |
| + - | Varies | | Varies by emphasis that varies between 6-11 credit hours. | 6 |
| | | | | |
| | | | **Elective Credit Hour Sub-Total** | 6 |
| | | | **Core Curriculum Credit Hour Sub-Total** | 46 |

*Can students complete this degree without emphases? Yes or X No*

| | Course Number | NEW Course | Course Title | Credit Hours |
|---|---|---|---|---|
| | Name of Emphasis: | | Atmospheric Science | |
| + - | ATMO 1010 | | Severe Weather (PS) | 3 |
| + - | ATMO 1020 | | Climate Change (PS) | 3 |
| + - | ATMO 2100 | | Air Pollution and Atmospheric Chemistry | 3 |
| + - | ATMO 2200 | | Mountain Weather and Climate | 3 |
| + - | CHEM 1210 | | General Chemistry I | 4 |
| + - | CHEM 1215 | | General Chemistry I Lab | 1 |
| | | | | |
| | | | **Emphasis Credit Hour Sub-Total** | 17 |
| | | | **Total Number of Credits to Complete Program** | 63 |
| | Remove this emphasis | | | |

| | Course Number | NEW Course | Course Title | Credit Hours |
|---|---|---|---|---|
| | Name of Emphasis: | | Ecosystems Science | |
| + - | ENVS 1405 | | Environmental Science Lab | 1 |

| | Course Number | NEW Course | Course Title | Credit Hours |
|---|---|---|---|---|
| + - | BIOL 1610 | | College Biology I (LS) | 3 |
| + - | BIOL 1615 | | College Biology I Lab | 1 |
| + - | BIOL 1620 | | College Biology II | 3 |
| + - | BIOL 1625 | | College Biology II Lab | 1 |
| + - | CHEM 1210 | | General Chemistry I | 4 |
| + - | CHEM 1215 | | General Chemistry I Lab | 1 |
| | | | | |
| | | | **Emphasis Credit Hour Sub-Total** | 14 |
| | | | **Total Number of Credits to Complete Program** | 60 |
| | Remove this emphasis | | | |

| | Course Number | NEW Course | Course Title | Credit Hours |
|---|---|---|---|---|
| | Name of Emphasis: | | Geographic Information Systems | |
| + - | GEOG 1000 | | Earth's Environments (PS) | 3 |
| + - | GEOG 1300 | | Regional Geography (IG) | 3 |
| + - | GEOG 1400 | | Human Geography (IG) | 3 |
| + - | GEOG 1800 | | Mapping Our Changing World (CM) | 3 |
| + - | GEOG 2100 | | Cartographic Principles | 4 |
| + - | GEOG 2750 | | Remote Sensing and GIS | 3 |
| | | | | |
| | | | **Emphasis Credit Hour Sub-Total** | 19 |
| | | | **Total Number of Credits to Complete Program** | 65 |
| | Remove this emphasis | | | |

| | Course Number | NEW Course | Course Title | Credit Hours |
|---|---|---|---|---|
| | Name of Emphasis: | | Geology | |
| + - | GEO 1110 | | Physical Geology | 3 |
| + - | GEO 1115 | | Physical Geology Lab | 1 |
| + - | GEO 1220 | | Historical Geology | 3 |
| + - | GEO 1225 | | Historical Geology Lab | 1 |
| + - | GEO 2350 | | Field Studies in Geology | 3 |
| + - | CHEM 1210 | | General Chemistry I | 4 |
| + - | CHEM 1215 | | General Chemistry I Lab | 1 |
| | | | | |
| | | | **Emphasis Credit Hour Sub-Total** | 16 |
| | | | **Total Number of Credits to Complete Program** | 62 |
| | Remove this emphasis | | | |

**Program Curriculum Narrative**

*Describe any variable credits.  You may also include additional curriculum information.*

There are no courses with variable credits. The variation in degree required credits is based on the choice of emphasis.

**Degree Map**

*Degree maps pertain to undergraduate programs ONLY. Provide a degree map for proposed program. Degree Maps were approved by the State Board of Regents on July 17, 2014 as a degree completion measure. Degree maps or graduation plans are a suggested semester-by-semester class schedule that includes prefix, number, title, and semester hours. For more details see http://higheredutah.org/pdf/agendas/201407/TAB%20A%202014-7-18.pdf (Item #3).*

*Please cut-and-paste the degree map or manually enter the degree map in the table below.*

| First Year Fall | Cr. Hr. | First Year Spring | Cr. Hr. |
|---|---|---|---|
| GEOG 1000 Earth's Environments (PS) | 3 | GEOG 1300 Regional Geography (IG) | 3 |
| ENVS 1400 Environmental Science (LS) | 3 | GEOG 1400 Human Geography (IG) | 3 |
| American Institutions (AI) | 3 | GEOG 1800 Mapping Our Changing World (CM) | 3 |
| ENGL 1010 Intro to Writing (EN) | 3 | ENGL 2010 Intermediate Writing (EN) | 3 |
| MATH 1050 College Algebra (QL) | 4 | Emphasis Course | 3 |
| **Total** | 16 | **Total** | 15 |
| **Second Year Fall** | **Cr. Hr.** | **Second Year Spring** | **Cr. Hr.** |
| PHIL 2300 Environmental Ethics (HU) | 4 | Emphasis Course | 3 |
| GEOG 2500 Introduction to Georgaphic Informati | 4 | Emphasis Course | 3 |
| Emphasis Course | 3 | Emphasis Courses | 3 |
| Fine Arts (FA) | 3 | Social Sciences (SS) / Diversity (DV) | 3 |
| Lifelong Wellness (LW) | 1 | | 3 |
| **Total** | 15 | **Total** | 15 |
| **Third Year Fall** | **Cr. Hr.** | **Third Year Spring** | **Cr. Hr.** |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| **Total** | | **Total** | |
| **Fourth Year Fall** | **Cr. Hr.** | **Fourth Year Spring** | **Cr. Hr.** |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| **Total** | | **Total** | |

## Appendix C: Current and New Faculty / Staff Information

Part I. Department Faculty / Staff

*Identify # of department faculty / staff (headcount) for the year preceding implementation of proposed program.*

| | # Tenured | # Tenure -Track | # Non -Tenure Track |
|---|---|---|---|
| Faculty: Full Time with Doctorate | 2 | | |
| Faculty: Part Time with Doctorate | | | |
| Faculty: Full Time with Masters | 3 | 1 | |
| Faculty: Part Time with Masters | | | |
| Faculty: Full Time with Baccalaureate | | | |
| Faculty: Part Time with Baccalaureate | | | |
| Teaching / Graduate Assistants | | | |
| Staff: Full Time | | | |
| Staff: Part Time | | | |

Part II. Proposed Program Faculty Profiles

*List current faculty within the institution -- with academic qualifications -- to be used in support of the proposed program(s).*

| | First Name | Last Name | Tenure (T) / Tenure Track (TT) / Other | Degree | Institution where Credential was Earned | Est. % of time faculty member will dedicate to proposed program. | If "Other," describe |
|---|---|---|---|---|---|---|---|
| Full Time Faculty | | | | | | | |
| | Maura | Hahnenburger | T | PhD | University of Utah | 100 | |
| | Chris | Johnson | T | MS | University of Kansas | 100 | |
| | R. Adam | Dastrup | T | MA | University of Utah | 100 | |
| | Laura | Harris | TT | MS | Indiana University | 100 | |
| | Jessica | Berryman | T | MA | University of Hawaii | 20 | |
| | Emmanuel | Santa-Martinez | TT | PhD | University of Wisconsin-Madison | 20 | |
| | | | | | | | |
| Part Time Faculty | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Part III: New Faculty / Staff Projections for Proposed Program

*Indicate the number of faculty / staff to be hired in the first three years of the program, if applicable. Include additional cost for these faculty / staff members in Appendix D.*

| | # Tenured | # Tenure -Track | # Non -Tenure Track | Academic or Industry Credentials Needed | Est. % of time to be dedicated to proposed program. |
|---|---|---|---|---|---|
| Faculty: Full Time with Doctorate | None new | | | | |
| Faculty: Part Time with Doctorate | | | | | |
| Faculty: Full Time with Masters | | | | | |
| Faculty: Part Time with Masters | | | | | |
| Faculty: Full Time with Baccalaureate | | | | | |
| Faculty: Part Time with Baccalaureate | | | | | |

| | # Tenured | # Tenure -Track | # Non -Tenure Track | Academic or Industry Credentials Needed | Est. % of time to be dedicated to proposed program. |
|---|---|---|---|---|---|
| Teaching / Graduate Assistants | | | | | |
| Staff: Full Time | | | | | |
| Staff: Part Time | | | | | |

## Appendix D: Projected Program Participation and Finance

**Part I.**

*Project the number of students who will be attracted to the proposed program as well as increased expenses, if any. Include new faculty & staff as described in Appendix C.*

| **Three Year Projection**: Program Participation and Department Budget | | | | | | |
|---|---|---|---|---|---|---|
| | Year Preceding Implementation | New Program | | | | |
| | | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 |
| **Student Data** | | | | | | |
| # of Majors in Department | 85 | 0 | 0 | 0 | 0 | 0 |
| # of Majors in Proposed Program(s) | | 100 | 100 | 100 | 100 | 100 |
| # of Graduates from Department | 6 | 0 | 0 | 0 | 0 | 0 |
| # Graduates in New Program(s) | | 10 | 10 | 10 | 10 | 10 |

| **Department Financial Data** | | | | |
|---|---|---|---|---|
| | Department Budget | | | |
| | | Year 1 | Year 2 | Year 3 |
| *Project additional expenses associated with offering new program(s). Account for New Faculty as stated in Appendix C, "Faculty Projections."* | Year Preceding Implementation (Base Budget) | Addition to Base Budget for New Program(s) | Addition to Base Budget for New Program(s) | Addition to Base Budget for New Program(s) |
| **EXPENSES –** nature of additional costs required for proposed program(s) | | | | |
| *List salary benefits for additional faculty/staff each year the positions will be filled. For example, if hiring faculty in year 2, include expense in years 2 and 3. List one-time operating expenses only in the year expended.* | | | | |
| Personnel (Faculty & Staff Salary & Benefits) | $797,262 | $23,918 | $48,553 | $98,563 |
| Operating Expenses (equipment, travel, resources) | $43,962 | $0 | $0 | $0 |
| Other: | $0 | $0 | $0 | $0 |
| **TOTAL PROGRAM EXPENSES** | | $23,918 | $48,553 | $98,563 |
| **TOTAL EXPENSES** | $841,224 | $865,142 | $889,777 | $939,787 |
| **FUNDING –** source of funding to cover additional costs generated by proposed program(s) | | | | |
| *Describe internal reallocation using Narrative 1 on the following page. Describe new sources of funding using Narrative 2.* | | | | |
| Internal Reallocation | | | | |
| Appropriation | $588,856 | $16,742 | $33,987 | $68,994 |
| Special Legislative Appropriation | | | | |
| Grants and Contracts | | | | |
| Special Fees | | | | |
| Tuition | $252,368 | $7,176 | $14,566 | $29,569 |
| Differential Tuition (requires Regents approval) | | | | |
| **PROPOSED PROGRAM FUNDING** | | $23,918 | $48,553 | $98,563 |
| **TOTAL DEPARTMENT FUNDING** | $841,224 | $865,142 | $889,777 | $939,787 |
| **Difference** | | | | |
| Funding - Expense | $0 | $0 | $0 | $0 |

**Part II:** Expense explanation

## Expense Narrative

*Describe expenses associated with the proposed program.*

Additional personnel costs reflect the approved base compensation increase for 2024 (Year 1) and an estimated compensation increase at 3.0% each subsequent year.  No additional funding is needed for the AS degree.

**Part III:** Describe funding sources

## Revenue Narrative 1

*Describe what internal reallocations, if applicable, are available and any impact to existing programs or services.*

At this time we used 70% for appropriation and 30% for tuition for 1000 and 2000 level courses.

## Revenue Narrative 2

*Describe new funding sources and plans to acquire the funds.*

There are no specific plans to solicit additional funds outside the institutional allocations.

# Associate of Science – Earth and Environmental Science
## Ecosystem Science Emphasis
**Transfer Pathway 2024-25 Catalog Year**

This guide is subject to change and should be used in consultation with an academic advisor.

## First Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| ENVS 1400 Environmental Science (LS) | 3 | BIOL 1610 College Biology I (LS) | 3 |
| ENVS 1405 Environmental Science Lab | 1 | BIOL 1615 College Biology I Lab | 1 |
| ENGL 1010 Intro to Writing (EN) | 3 | CHEM 1210 General Chemistry I | 4 |
| MATH 1050 College Algebra (QL) | 4 | CHEM 1215 General Chemistry I Lab | 1 |
| American Institutions (AI) | 3 | ENGL 2010 Intermediate Writing (EN) | 3 |
| Communication (CM) | 3 | MATH 1060 Trigonometry (QL) | 3 |
| Total | 17 | Total | 15 |

## Second Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| BIOL 1620 College Biology II* | 3 | ATMO 2100 Air Pollution & Atmo. Chemistry* | 3 |
| BIOL 1625 College Biology II Lab* | 1 | MATH 1220 Calculus II* | 4 |
| GEOG 2500 Introduction to GIS | 4 | Social Sciences (SS)/Diversity (DV) | 3 |
| MATH 1210 Calculus I* | 4 | International & Global (IG) | 3 |
| Humanities (HU) - Phil 2300 recommended | 3 | Fine Arts (FA) | 3 |
| | | Lifelong Wellness (LW) | 1 |
| Total | 15 | Total | 15 |

*Indicates course specific to U of U transfer

# Bachelor of Science – Earth & Environmental Science
## Ecosystem Science
**Transfer Pathway 2024-25 Catalog Year**

This guide is subject to change and should be used in consultation with an academic advisor.

## Third Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| SCI 1500 Interdisciplinary Prin. of Scientific Inq. | 1 | SCI 2715 Science Research Initiative | 2 |
| BIOL 3410 Ecology and Evolution | 3 | PHYS 2220 Physics for Scientists and Eng. II | 4 |
| PHYS 2210 Physics for Scientists and Eng. I | 4 | BIOL 3460 Global Environmental Issues | 3 |
| CHEM 1220 General Chemistry II | 4 | Emphasis STEM Elective | 3 |
| CHEM 1225 General Chemistry Laboratory II | 1 | Upper Division Broadening STEM Elective | 3 |
| ATMOS 3000 Prof. Dev. In the Atmos. Sci. | 2 | | |
| Total | 15 | Total | 15 |

## Fourth Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| ATMOS 5000 Intro to Atmospheric Science | 3 | Emphasis STEM Elective | 3 |
| ATMOS 5340 Environmental Prog. & Stats | 3 | Field/Lab Course | 3 |
| BIOL 5490 Ecosystem Ecology | 3 | Upper Division Broadening STEM Elective | 3 |
| Emphasis STEM Elective | 3 | CW Bachelor Requirement | 3 |
| Field/Lab Course | 3 | General Elective | 3 |
| | | | |
| Total | 15 | Total | 15 |

# Associate of Science – Earth and Environmental Science

# Atmospheric and Climate Science Emphasis

**Transfer Pathway 2024-25 Catalog Year**

This guide is subject to change and should be used in consultation with an academic advisor.

## First Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| ATMO 1010 Severe Weather (PS) | 3 | ATMO 1020 Climate Change (PS) | 3 |
| ENVS 1400 Environmental Science (LS) | 3 | CHEM 1210 General Chemistry I | 4 |
| ENVS 1405 Environmental Science Lab | 1 | CHEM 1215 General Chemistry I Lab | 1 |
| ENGL 1010 Intro to Writing (EN) | 3 | ENGL 2010 Intermediate Writing (EN) | 3 |
| MATH 1050 College Algebra (QL) | 4 | MATH 1060 Trigonometry (QL) | 3 |
| American Institutions (AI) | 3 | Fine Arts (FA) | 3 |
| Total | 17 | Total | 17 |

## Second Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| ATMO 2200 Mountain Weather & Climate | 3 | ATMO 2100 Air Pollution & Atmo Chemistry | 3 |
| MATH 1210 Calculus I* | 4 | GEOG 2500 Introduction to GIS | 4 |
| PHYS 2210 Physics for Science & Eng. I* | 4 | Social Sciences (SS)/ Diversity (DV) | 3 |
| PHYS 2215 Physics for Science & Eng. I Lab* | 1 | Communication (CM) | 3 |
| Humanities (HU) - PHIL 2300 recommended | 3 | International & Global (IG) | 3 |
| Lifelong Wellness (LW) | 1 | | |
| Total | 16 | Total | 16 |

*Indicates course specific to U of U transfer

# Bachelor of Science – Atmospheric Sciences

**Transfer Pathway 2024-25 Catalog Year**

This guide is subject to change and should be used in consultation with an academic advisor.

## Third Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| ATMOS 3000 Prof. Dev. In Atmospheric Sci. | 2 | MATH 2210 Calculus III | 3 |
| ATMOS 5000 Intro to Atmospheric Science | 3 | ATMOS 5400 The Climate System | 3 |
| ATMOS 5340 Environmental Prog & Stats | 3 | WRTG 3014 Writing in the Sciences | 3 |
| PHYS 2220 Physics for Scientists and Eng. II | 4 | Emphases Elective/IR | 3 |
| MATH 1220 Calculus II | 4 | Emphases Elective | 3 |
| | | Emphases Elective | 3 |
| Total | 16 | Total | 18 |

## Fourth Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| MATH 2250 Diff. Equations & Linear Algebra | 4 | ATMOS 5050 Environmental Instrumentation | 2 |
| ATMOS 5100 Intro to Atmospheric Dynamics | 3 | ATMOS 5310 Physical Meteorology | 3 |
| ATMOS 5300 Atmos Thermodynamics | 3 | ATMOS 5810 Experiential Learning II | 1 |
| ATMOS 5800 Experiential Learning I | 1 | Emphases Elective | 3 |
| Emphases Elective | 3 | Emphases Elective | 3 |
| Emphases Elective | 3 | Emphases Elective | 3 |
| | | | |
| Total | 17 | Total | 15 |

# Associate of Science – Earth and Environmental Science
# Atmospheric and Climate Science Emphasis

**Transfer Pathway 2024-25 Catalog Year**

This guide is subject to change and should be used in consultation with an academic advisor.

## First Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| ATMO 1010 Severe Weather (PS) | 3 | ATMO 1020 Climate Change (PS) | 3 |
| ENVS 1400 Environmental Science (LS) | 3 | CHEM 1210 General Chemistry I | 4 |
| ENVS 1405 Environmental Science Lab | 1 | CHEM 1215 General Chemistry I Lab | 1 |
| ENGL 1010 Intro to Writing (EN) | 3 | ENGL 2010 Intermediate Writing (EN) | 3 |
| MATH 1050 College Algebra (QL) | 4 | MATH 1060 Trigonometry (QL) | 3 |
| American Institutions (AI) | 3 | Fine Arts (FA) | 3 |
| Total | 17 | Total | 17 |

## Second Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| ATMO 2200 Mountain Weather & Climate | 3 | ATMO 2100 Air Pollution & Atmo Chemistry | 3 |
| MATH 1210 Calculus I (QL)* | 4 | GEOG 2500 Introduction to GIS | 4 |
| PHYS 2210 Physics for Science & Eng. I* | 4 | Social Sciences (SS)/ Diversity (DV) | 3 |
| Humanities (HU) - PHIL 2300 recommended | 3 | Communication (CM) | 3 |
| Lifelong Wellness (LW) | 1 | International & Global (IG) | 3 |
| | | | |
| Total | 15 | Total | 16 |

*Indicates course specific to U of U transfer

# Bachelor of Science – Earth and Environmental Sciences
# Climate Science Emphasis

**Transfer Pathway 2024-25 Catalog Year**

This guide is subject to change and should be used in consultation with an academic advisor.

## Third Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| SCI 1500 Interdisciplinary Prin. Of Sci. Inquiry | 1 | SCI 2715 Science Research Initiative | 2 |
| CHEM 1220 General Chemistry II | 4 | ATMOS 5000 Introduction to Atmos Science | 3 |
| CHEM 1225 General Chemistry Laboratory II | 1 | ATMOS 5340 Environmental Prog. & Stats | 3 |
| PHYS 2220 Physics for Scientists and Eng. II | 4 | MATH 2210 Calculus III | 3 |
| MATH 1220 Calculus II | 4 | Upper-Division Emphasis STEM Elective | 3 |
| ATMOS 3000 Prof. Dev. In Atmos Science | 2 | CW Bachelor Requirement | 3 |
| | | | |
| Total | 16 | Total | 17 |

## Fourth Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| MATH 2250 Differential Eq. and Linear Alg. | 4 | Field/Lab Courses | 3 |
| Field/Lab Courses | 3 | Upper-Division Broadening STEM Elective | 3 |
| Upper-Division Broadening STEM Elective | 3 | Upper Division General Elective | 3 |
| Upper-Division Broadening STEM Elective | 3 | Upper Division General Elective | 3 |
| Upper-Division General Elective | 2 | Bachelor Writing Requirement | 3 |
| | | | |
| Total | 15 | Total | 15 |

# Associate of Science – Earth and Environmental Science
# Geology Emphasis

**Transfer Pathway 2024-25 Catalog Year**

This guide is subject to change and should be used in consultation with an academic advisor.

## First Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| Math 1060 Trigonometry (QL) | 3 | MATH 1210 Calculus I (QL)* | 4 |

| | | | |
|---|---|---|---|
| ENGL 1010 Intro to Writing (EN) | 3 | ENGL 2010 Intermediate Writing (EN) | 3 |
| Communication (CM) | 3 | Social Science (SS) | 3 |
| Lifelong Wellness (LW) | 1 | Fine Arts (FA) | 3 |
| ENVS 1400 Environmental Science (LS) | 3 | American Institutions (AI) | 3 |
| ENVS 1405 Environmental Science Lab | 1* | | |
| International & Global (IG) | 3 | | |
| Total | 16 | Total | 16 |

## Second Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| GEO 1110 Physical Geology | 3 | GEO 1220 Historical Geology | 3 |
| GEO 1115 Physical Geology Lab | 1 | GEO 1225 Historical Geology Lab | 1 |
| CHEM 1210 General Chemistry I* | 4 | GEO 2350 Field Studies in Geology | 3 |
| CHEM 1215 General Chemistry I Lab* | 1 | CHEM 1220 General Chemistry II* | 4 |
| MATH 1220 Calculus II* | 4 | CHEM 1225 General Chemistry Lab II* | 1 |
| PHYS 2210 Physics for Science & Eng. I | 4 | Humanities (HU) - PHIL 2300 recommended | 3 |
| | | GEOG 2500 Introduction to GIS | 4 |
| Total | 17 | Total | 19 |

*Indicates course specific to U of U transfer

# Bachelor of Science – Geoscience
# Geology Emphasis

**Transfer Pathway 2024-25 Catalog Year**

This guide is subject to change and should be used in consultation with an academic advisor.

## Third Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| GEO 2100 Reactive Earth | 3 | GEO 3010 Geophysics | 3 |
| GEO 3100 Dynamic Earth | 3 | GEO 3020 Mineralogy | 3 |
| MATH 3070 Applied Statistics I | 4 | GEO 3040 Sedimentology and Stratigraphy | 4 |
| PHYS 2220 Physics for Scientists and Eng. II | 4 | Geology Emphasis Elective | 3 |
| Total | 14 | Total | 13 |

## Fourth Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| GEO 3050 Petrogenesis of Igneous and Met. | 4 | GEO 4500 Field Methods | 3 |
| GEO 4060 Structural Geology and Tectonics | 4 | Upper-Division Elective | 3 |
| Geology Emphasis Elective | 3 | Upper-Division Elective | 3 |
| Bachelor Requirement - IR | 3 | | |
| Total | 14 | Total | 9 |

## Summer Semester

| | |
|---|---|
| GEO 4510 Field Geology | 2 |
| GEO 4520 Field Geology – Part 2 | 2 |
| Total | 4 |

# Associate of Science – Earth and Environmental Science
# Geology Emphasis

**Transfer Pathway 2024-25 Catalog Year**

This guide is subject to change and should be used in consultation with an academic advisor.

## First Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| Math 1060 Trigonometry (QL) | 3 | MATH 1210 Calculus I (QL)* | 4 |
| ENGL 1010 Intro to Writing (EN) | 3 | ENGL 2010 Intermediate Writing (EN) | 3 |
| Communication (CM) | 3 | Social Science (SS) | 3 |
| Lifelong Wellness (LW) | 1 | Fine Arts (FA) | 3 |

| | | | |
|---|---|---|---|
| ENVS 1400 Environmental Science (LS) | 3 | American Institutions (AI) | 3 |
| ENVS 1400 Environmental Science Lab* | 1 | | |
| International & Global (IG) | 3 | | |
| Total | 17 | Total | 16 |
| **Second Year** | | | |
| **Fall Semester** | | **Spring Semester** | |
| GEO 1110 Physical Geology | 3 | GEO 1220 Historical Geology | 3 |
| GEO 1115 Physical Geology Lab | 1 | GEO 1225 Historical Geology Lab | 1 |
| CHEM 1210 General Chemistry I* | 4 | GEO 2350 Field Studies in Geology | 3 |
| CHEM 1215 General Chemistry I Lab* | 1 | CHEM 1220 General Chemistry II* | 4 |
| MATH 1220 Calculus II* | 4 | CHEM 1225 General Chemistry Lab II* | 1 |
| PHYS 2210 Physics for Science & Eng. I* | 4 | Humanities (HU) - PHIL 2300 recommended | 3 |
| | | GEOG 2500 Introduction to GIS | 4 |
| Total | 17 | Total | 19 |

*Indicates course specific to U of U transfer

## Bachelor of Science – Earth and Environmental Sciences
## Geoscience Emphasis

**Transfer Pathway 2024-25 Catalog Year**

This guide is subject to change and should be used in consultation with an academic advisor.

| | | | |
|---|---|---|---|
| **Third Year** | | | |
| **Fall Semester** | | **Spring Semester** | |
| SCI 1500 Interdisciplinary Prin. of Sci. Inquiry | 1 | SCI 2715 Science Research Initiative | 2 |
| GEO 2100 Reactive Earth | 3 | ATMOS 3000 Prof. Dev. In Atmospheric Sci. | 2 |
| GEO 3100 Dynamic Earth | 3 | ATMOS 5000 Intro to Atmospheric Science | 3 |
| GEO 3400 Comp. and Num. Methods in Geo. | 3 | ATMOS 5340 Env. Programming & Statistics | 3 |
| PHYS 2220 Physics for Scientist & Eng. II | 4 | Emphasis Stem Elective | 3 |
| | | | |
| Total | 14 | Total | 13 |
| **Fourth Year** | | | |
| **Fall Semester** | | **Spring Semester** | |
| Emphasis Stem Elective | 3 | Emphasis Stem Elective | 3 |
| Broadening STEM Elective | 3 | Field/Lab Course | 3 |
| Field/Lab Course | 3 | Upper-Division Broadening STEM Elective | 3 |
| Bachelor Requirement Writing Course | 3 | Upper-Division Elective | 3 |
| Upper-Division General Elective | 3 | | |
| Total | 15 | Total | 12 |

## Associate of Science – Earth and Environmental Science
## Geographic Information Science Emphasis

**Transfer Pathway 2024-25 Catalog Year**

This guide is subject to change and should be used in consultation with an academic advisor.

| | | | |
|---|---|---|---|
| **First Year** | | | |
| **Fall Semester** | | **Spring Semester** | |
| GEOG 1000 Earth's Environments (PS) | 3 | GEOG 1300 Regional Geography (IG) | 3 |
| ENVS 1400 Environmental Science (LS) | 3 | GEOG 1400 Human Geography (IG) | 3 |
| American Institutions (AI) | 3 | GEOG 1800 Mapping Our Changing World (CM) | 3 |
| ENGL 1010 Intro to Writing (EN) | 3 | ENGL 2010 Intermediate Writing (EN) | 3 |
| MATH 1050 College Algebra (QL) | 4 | Fine Arts (FA) | 3 |
| | | | |
| Total | 16 | Total | 15 |
| **Second Year** | | | |

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| GEOG 2100 Cartographic Principles | 4 | GEOG 2750 Remote Sensing and GIS | 3 |
| GEOG 2500 Intro to Geographic Info Systems | 4 | GEOG 1180 Programming using Python* | 3 |
| GIS Emphasis Elective | 3 | Humanities (HU) - PHIL 2300 recommended | 3 |
| International & Global (IG) | 3 | Social Sciences (SS)/ Diversity (DV) | 3 |
| Lifelong Wellness (LW) | 1 | CM or GIS Emphasis Elective | 3 |
| | | | |
| Total | 15 | Total | 15 |

*Indicates course specific to U of U transfer

# Bachelor of Science – Geography
# Geographic Information Science Emphasis

**Transfer Pathway 2024-25 Catalog Year**

This guide is subject to change and should be used in consultation with an academic advisor.

## Third Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| GEOG 1005 Earth Env. and Global Change Lab | 1 | GEOG 5150 Geospatial Big Data | 4 |
| GEOG 3020 Geographical Analysis | 4 | Human Geography Requirement | 3 |
| GEOG 3170 Geospatial Field Methods: GPS/Drones | 3 | Quantitative Intensive | 3 |
| GEOG 4140 Advanced Methods in GIS | 4 | Upper-Division GEOG Elective | 3 |
| Physical Geography Requirement | 3 | Bachelor Degree IR requirement | 3 |
| | | | |
| Total | 15 | Total | 16 |

## Fourth Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| GEOG Communication/Writing Requirement | 4 | GEOG 5161 Capstone in GIS | 3 |
| GEOG 5160, 5165, 5180 or 5190 | 3 | Upper-Division GEOG Elective | 3 |
| GEOG Elective | 3 | GEOG Elective | 3 |
| General Elective | 3 | General Elective | 2 |
| General Elective | 3 | General Elective | 3 |
| | | | |
| Total | 16 | Total | 14 |

# Associate of Science – Earth and Environmental Science
# Geographic Information Science Emphasis

**Transfer Pathway 2024-25 Catalog Year**

This guide is subject to change and should be used in consultation with an academic advisor.

## First Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| GEOG 1000 Earth's Environments (PS) | 3 | GEOG 1300 Regional Geography (IG) | 3 |
| ENVS 1400 Environmental Science (LS) | 3 | GEOG 1400 Human Geography (IG) | 3 |
| American Institutions (AI) | 3 | GEOG 1800 Mapping Our Changing World (CM) | 3 |
| ENGL 1010 Intro to Writing (EN) | 3 | ENGL 2010 Intermediate Writing (EN) | 3 |
| MATH 1050 College Algebra (QL) | 4 | Fine Arts (FA) | 3 |
| | | | |
| Total | 16 | Total | 15 |

## Second Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| GEOG 2100 Cartographic Principles | 4 | GEOG 2750 Remote Sensing and GIS | 3 |
| GEOG 2500 Intro to Geographic Info Systems | 4 | COMM or GIS Emphasis Elective | 3 |
| GIS Emphasis Elective | 3 | Humanities (HU) - PHIL 2300 recommended | 3 |

| | | | |
|---|---|---|---|
| International & Global (IG) | 3 | Social Sciences (SS)/ Diversity (DV) | 3 |
| Lifelong Wellness (LW) | 1 | GEOG 1180 Programming using Python* | 3 |
| | | | |
| Total | 15 | Total | 15 |

*Indicates course specific to U of U transfer

# Bachelor of Science – Geographic Information Science

**Transfer Pathway 2024-25 Catalog Year**

This guide is subject to change and should be used in consultation with an academic advisor.

## Third Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| GEOG 1005 Earth Env. and Global Change Lab | 1 | GEOG 5110 Envir. Analysis Through Remote | 3 |
| GEOG 1100 Exp. the World Through Google Earth | 3 | GEOG 3020 Geographical Analysis | 4 |
| GEOG 4140 Advanced Methods in GIS | 4 | GEOG 3270, 3400, 5270, or 5400 | 4 |
| CS 1030 Foundations of Computer Science | 3 | PHYS 1010 or 2010 | 4 |
| GEOG 3110 Intro to Remote Sensing | 3 | Bachelor IR requirement | 3 |
| | | | |
| Total | 14 | Total | 18 |

## Fourth Year

| Fall Semester | | Spring Semester | |
|---|---|---|---|
| GEOG 3050 or MATH 1210 | 4 | GEOG 5165 Data Visualization | 3 |
| GEOG 3170 Geospatial Field Methods: GPS | 3 | GEOG 5162 Project Management | 3 |
| GEOG 5150 Geospatial Big Data | 4 | GEOG 5161 Capstone in GIS | 3 |
| GEOG 5180 Geoprocessing with Python | 3 | GEOG 5160 Spatial Modeling and Geocomp. | 4 |
| GEOG 5680 Intro to R Programming | 2 | GIS Emphasis Elective | 3 |
| | | | |
| Total | 16 | Total | 16 |

# TAB L

31 May 2024

**MEMORANDUM**

**TO:** SLCC Board of Trustees

**FROM:** Jason Pickavance, Interim Provost of Academic Affairs
Rachel Divine Lewis, Associate Provost

**SUBJECT:** Name Change and Revised GIS and Drones (AAS) degree

The current *Geospatial Technology* (AAS) degree is proposing a name change to *Geographic Information Systems (GIS) and Drone*s and curricular revisions to be more consistent with industry, community, and the student experience. Graduates of the GIS and Drones (AAS) degree program will possess the necessary skills and qualifications for a wide range of entry-level positions in geospatial technology, with a specific focus on Geographic Information Systems (GIS) and drones (sUAS).

The GIS and Drones (AAS) is an interdisciplinary degree aligned with the competencies outlined in the Department of Labor's Geospatial Technology Competency Model (GTCM). The program strongly emphasizes developing expertise in geographic information systems (GIS), remote sensing, global positioning systems (GPS), and geospatial programming. The relevance of these skills extends to various industries directly associated with geospatial technology and indirectly impacting others.

Along with Geographic Information Systems, the program specifically encompasses drones and the necessary software and hardware components for operation. Students are prepared to enter the rapidly expanding drone market and industry by completing this degree. The coursework mandated by the program equips students with the ability to manage and plan flight operations, process imagery data for analysis, and develop versatile skills applicable to various domains. These applications include but are not limited to geographic information systems, agriculture, natural and cultural resources management, emergency response, aerial videography, photography, and more.

According to the U.S. Department of Labor and Bureau of Labor Statistics, geospatial technology stands out as one of the nation's rapidly growing industries. Job opportunities in surveying, mapping technicians, photogrammetrists, and cartography represent key entry points within this dynamic field. Per Utah's Department of Workforce Services, the occupational outlook for 5-star jobs in GIS and Drones is expected to grow much faster than average with a high volume of annual job openings. The need for replacements, rather than business expansion is projected to make up the majority of job openings in the coming decade. The approximate minimum wage in the Salt Lake Metro Area and statewide is $21.00 per hour ($45,000 annually). With experience and additional education to the bachelor's degree level, wages rise $38.90 per hour with a median annual income of $80,960 to $83,130.

This proposal was discussed and approved by the Senate Curriculum Committee on 26 February 2024 the Faculty Senate on 18 March 2024. The Executive Cabinet approved the name change and curricular revisions of the AAS degree on 14 May 2024 on the recommendation from the Interim Provost, effective Fall Semester, 2024.

# Salt Lake Community College
# PCO Curriculum and Learning Outcomes
# for Associate of Applied Science (AAS) Degree

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**Program Title:** GIS and Drones

**Credential**: Associate of Applied Science (AAS) **Total Cr:** 63

---

## PROGRAM LEARNING OUTCOMES

**Program Student Learning Outcomes mapped to SLCC College-Wide Student Learning Outcomes.**

1. Acquire substantive knowledge
2. Communicate effectively
3. Develop quantitative literacies
4. Think critically & creatively
5. Become a community engaged learner
6. Work in a professional & constructive manner
7. Develop computer & information literacy
8. Develop lifelong wellness

| Program Learning Outcomes | SLCC CWSLO # |
|---|---|
| Apply geographic information systems (GIS) and drone technology to create, edit, and analyze spatial data. | 1, 4 |
| Identify relevant spatial data, design data collection strategies, and apply analytical techniques to address specific challenges. | 1, 7 |
| Create maps using various mapping software using design principles from cartography. | 1, 2 |
| Acquire skills to collect and manage spatial data from diverse sources, including remote sensing and GPS. | 1, 7 |

See SLCC Assessment webpage for additional details about College-Wide Student Learning Outcomes

# AAS GENERAL EDUCATION REQUIREMENTS (14 cr min)

Specifying or embedding General Education courses requires approval by the SLCC General Education Committee. For a current list of approved General Education courses, see the SLCC Catalog.

**CORE SKILLS**

COMPOSITION (EN) 1 course

- ENGL 1010

QUANTITATIVE STUDIES (QS) 1 course

COMMUNICATION (CM) 1 course

HUMAN RELATIONS (HR) 1 course

**DISTRIBUTION AREAS** 1 course from the Distribution Areas

FINE ARTS (FA)

HUMANITIES (HU)

LIFE SCIENCES (LS)

PHYSICAL SCIENCES (PS)

SOCIAL SCIENCES (SS)

## REQUIRED COURSES (32 cr)

All course changes (title, credit, pre-req, semester taught, etc …) must be proposed on the CCO document.

| Prefix | Number | Title | Cr/Hrs |
|---|---|---|---|
| GEOG | 1180 | Programming with Python | 3 |
| GEOG | 1800 | Mapping Our Changing World (CM) | 3 |
| GEOG | 2100 | Cartographic Principles | 4 |
| GEOG | 2400 | Data Acquisition and Management | 3 |
| GEOG | 2500 | Introduction to Geographic Information Systems | 4 |
| GEOG | 2550 | Fundamentals of Drones | 3 |
| GEOG | 2750 | Remote Sensing and GIS | 3 |
| GEOG | 2800 | Web GIS | 3 |
| GEOG | 2920 | Spatial Analysis | 3 |
| GEOG | 2950 | Mapping with Drones | 3 |
| | | **TOTAL:** | 32 |

## ELECTIVE COURSES (17 cr)

Elective requirements: choose 17 credits from the list of courses below

| Prefix | Number | Title | Cr/Hrs |
|---|---|---|---|
| ATMO | 1010 | Severe Weather (PS) | 3 |
| ATMO | 1020 | Climate Change (PS) | 3 |
| ATMO | 2100 | Air Pollution and Atmospheric Chemistry | 3 |
| ATMO | 2200 | Mountain Weather and Climate | 3 |
| ENVT | 1400 | Environmental Science (LS) | 3 |
| GEO | 1010 | Introduction to Geology (PS) | 3 |
| GEO | 1110 | Physical Geology | 3 |
| GEO | 1220 | Historical Geology | 3 |
| GEO | 2350 | Field Studies in Geology | 3 |
| GEOG | 1000 | Earth’s Environments (PS) | 3 |
| GEOG | 1300 | Regional Geography (IG) | 3 |
| GEOG | 1400 | Human Geography (IG) | 3 |
| GEOG | 1700 | Natural Disasters (PS) | 3 |
| | | **TOTAL:** | 17 |

**Utah System of Higher Education**
**Notification of Changes to Existing Academic Program**

| | | |
|---|---|---|
| **Institution Submitting Request:** | **Salt Lake Community College** | |
| | *Current* | *NEW (if applicable)* |
| **Program Title:** | **Geospatial Technology** | **Geographic Information Sysytem and Drones** |
| **Sponsoring School, College, or Division:** | **School of Science, Mathematics, and Engineering** | |
| **Sponsoring Academic Department(s) or Unit(s):** | **Natural Sciences and Engineering** | |
| **Classification of Instruction Program Code[1]:** | **45.0702** | |
| **Min/Max Credit Hours Required for Full Program:** | **65 /** | **63 /** |
| **Proposed Effective Term for Program Change[2]:** | **Fall 2024** | |
| **Institutional Board of Trustees' Approval Date:** | **06/12/2024** | |

**Award Type:** AAS

| | |
|---|---|
| ☒ | Name Change of Existing Program |
| ☐ | Program Restructure with or without Consolidation |
| ☐ | Program Transfer to a new academic department or unit |
| ☐ | Program Suspension |
| ☐ | Program Discontinuation |
| ☐ | Reinstatement of Previously Suspended Program |
| ☐ | Out of Service Area Delivery Program -- *Attached Signed MOU* |

**Program Change Type (check all that apply):**

**Program Change Description/Narrative**

*Briefly describe program change. For program discontinuance or suspension, include teach out plan.*

Changing the name to terminology that is more consistent with the industry, community, and student experience. Updated curriculum and learning outcomes to better align to workplace needs reduced the AAS degree from 65 to 63 minimum credits. This should help improve student retention and completion rates, while maintaining the academic integrity of the program.

**Chief Academic Officer (or Designee) Signature**:

I, the Chief Academic Officer or Designee, certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

_____

Date:

☐

1 For CIP code classifications, please see http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55.

2 "Proposed Effective Term" refers to term when change to program is published. **For Suspensions and Discontinuations,** "effective term" refers to the term the program will suspend admissions.

I understand that checking this box constitutes my legal signature.

# TAB M

16 April 2024

**MEMORANDUM**

**TO:** Executive Cabinet

**FROM:** Jason Pickavance, Interim Provost of Academic Affairs
Rachel Divine Lewis, Associate Provost

**SUBJECT:** Revised SLTC Certificates: Automation Technology, Electronics Assembly Technology, and Robotics Technology

Faculty in Salt Lake Technical College at Salt Lake Community College continue to work collaboratively with colleges across USHE Technical Colleges to meet mandated technical college curriculum alignment. Once the alignment is complete, each certificate's name and description as well as course titles, credits, descriptions, and learning outcomes are equivalent across USHE Technical Colleges. Three certificates at SLCC completed the alignment which now requires institutional approval:

Automation Technology

The Automation Technology program supports a wide variety of mechanical and automated systems. This program is designed to help prepare students with the necessary skills to become technicians in several critical industries. Students are introduced to a wide variety of tools, practices, and procedures. It prepares students to apply technical knowledge and skills to repair and maintain industrial machinery and equipment such as cranes, pumps, pneumatic tools, conveyor systems, production machinery, steam propulsion refinery, and distribution systems. The program uses a competency based hands-on approach pedagogy.

Robotics Technology

The Robotics Technology program covers essentials skills and safety, and electrical systems as a foundation to robotics technology. The robotics courses will cover robotics fundamentals, programming of 4-axis and 6-axis industrial robotic systems, and robotic vision. Robotics technicians install, service, maintain, troubleshoot, and repair robots and automated production systems. They may assist engineers in testing and designing robotics equipment.

Per the Utah Department of Workforce Services Occupation Outlook, occupations as automation, manufacturing, and robotics technicians are classified as 3-4 star jobs. There is expected faster than average employment growth with a high volume of annual job openings of replacement workers and business expansion. The statewide hourly wage for inexperienced entry workers is approx. $18.60 per hour and slightly higher at $21.05 per hour in the Salt Lake metro area. When employees add work experience and an associate degree, wages rise to approx. $24.41 per hour across the state including the Salt Lake Metro ($38,810 -,95,960 annually); salaries are higher nationally at $29.12 per hour ($43,740 annually).

Electronics Assembly Technology

Student will apply electrical and electronic theory and related knowledge, usually under the direction of engineering staff, to design, build, repair, adjust, and modify electrical components, circuitry, controls, and machinery for subsequent evaluation and use by engineering staff in making engineering design decisions. This certificate covers electronics soldering and mechanical assembly, component identification, schematic diagrams/symbols, direct current basics, and digital meters applications. The IPC certifications courses cover electronics inspection and workmanship criteria.

Occupations as electrician technologists and technicians are expected to experience average growth with a high volume of annual job openings in these 4-star jobs. The statewide hourly wage for inexperienced entry workers is approx. $21.50 per hour and slightly higher at $23.60 per hour in the Salt Lake metro area. When employees add work experience and an associate degree, wages rise to approx. $29.75 per hour across the state including the Salt Lake Metro area ($49,150 - $61,890 annually).

Each certificate was approved unanimously by Senate Curriculum Committee on 12 February 2024 and 26 February 2024. All certificates were approved by the Faculty Senate at the 18 March 2024 meeting.

The Interim Provost recommends Executive Cabinet approve the certificates as presented, effective Summer Semester, 2024.

**Utah System of Higher Education**
**Notification of Changes to Existing Academic Program**

| | | |
|---|---|---|
| **Institution Submitting Request:** | **Salt Lake Community College** | |
| | *Current* | *NEW (if applicable)* |
| **Program Title:** | **Automation and Instrumentation Technician** | **Automation Technology** |
| **Sponsoring School, College, or Division:** | **School of Technical and Professional Studies** | **School of Technical and Professional Studies** |
| **Sponsoring Academic Department(s) or Unit(s):** | **SAT** | **Salt Lake Technical College** |
| **Classification of Instruction Program Code[1]:** | **47.0303** | |
| **Min/Max Credit Hours Required for Full Program:** | **900 Hours /** | **30 Credits /** |
| **Proposed Effective Term for Program Change[2]:** | **Summer 2024** | |
| **Institutional Board of Trustees' Approval Date:** | **06/12/2024** | |

**Award Type:** Certificate of Completion

| | |
|---|---|
| ☒ | Name Change of Existing Program |
| ☒ | Program Restructure with or without Consolidation |
| ☐ | Program Transfer to a new academic department or unit |
| ☐ | Program Suspension |
| ☐ | Program Discontinuation |
| ☐ | Reinstatement of Previously Suspended Program |
| ☐ | Out of Service Area Delivery Program -- *Attached Signed MOU* |

**Program Change Type (check all that apply):**

**Program Change Description/Narrative**

*Briefly describe program change. For program discontinuance or suspension, include teach out plan.*

The USHE mandate for technical curriculum alignment resulted in a revised and updated Automation program. The new certificate has four new and several revised courses where instruction provided includes required industry skills for advanced manufacturing sectors. There is a common 70% equivalent curriculum (courses and learning outcomes) across USHE Technical Colleges; the 30% unique content at SLTC retained and restructures courses tailored to our service area in three emphasis tracks.

As of January 5, 2024, there are 18 students enrolled in prior years' Automation and Instrumentation Certificate (KAIT/TEMT). Due to the substantive revision and differences in these programs compared to the new state aligned Automation Technology certificate, moving students into the new certificate is not to their benefit. Instead, course selection for substitutions will be tailored to each student in a way they can complete existing requirements with new courses. Students will complete by September 2024.

1 For CIP code classifications, please see http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55.
2 "Proposed Effective Term" refers to term when change to program is published. **For Suspensions and Discontinuations,** "effective term" refers to the term the program will suspend admissions.

**Chief Academic Officer (or Designee) Signature**:
I, the Chief Academic Officer or Designee, certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

Rachel Divine Lewis, Associate Provost

Date: April 3, 2024

☒

I understand that checking this box constitutes my legal signature.

# Automation Technology: CC (SLTC)(CTE) - Certificate of Completion CTE

### 2. 2024-25 Program Proposal - REVISE

## Read Before You Begin

**FILL IN** all fields required marked with an * after importing data.

**ATTACH** supporting documentation.

Complete the **Acknowledgement** section.

**LAUNCH** proposal by clicking Validate and Launch at the top. Once the proposal has been launched, **APPROVE** the proposal to move the proposal forward in the workflow.

**IMPORTANT:** If you are revising any courses within this program, please ensure a Course Revision Proposal has also been submitted.

This program proposal form is to REVISE a program, if you need to DISCONTINUE, SUSPEND, or create a NEW program please use the program proposal form designed for that purpose.

## Program Curriculum Outline (PCO)

**Use this form for revisions to existing *active approved programs*.**

**Is this a substantively revised program?*** (•) Yes ( ) No

**Requesting Division*** Operations & Academic Readiness, and Electronics

**Program Title*** Automation Technology: CC (SLTC)(CTE)

**Credential Type*** Certificate of Completion CTE

**Area of Study*** Construction, Manufacturing, and Applied Technologies

**Is this a Salt Lake Technical College Program?*** (•) Yes ( ) No

**Proposed Changes***

- [x] Program Description
- [x] Program Title
- [x] Learning Outcomes
- [x] Program Hours/Credits
- [ ] Program Entry Requirements
- [ ] Career Opportunities
- [ ] Transfer information
- [x] Estimated Costs
- [ ] General Education
- [x] Course(s) - Required
- [x] Course(s) - Electives
- [x] Pathways map/Time to completion
- [ ] Other, list in rationale

**Rationale for revised program***

USHE mandate for technical college's alignment.

**Effective Year**

AY 2024-2025

**If other than next catalog year, explain semester and provide rationale**

**What is the impact of this program revisions on the department, division, school?***

Improved workforce skills training for automation career paths.

**What is the impact of program revisions on other SLCC programs/courses?***

None

## Program Narrative

**Program Webpage***

https://www.slcc.edu/sltech/areas/electronics/automation-instrumentation-technician.aspx

**Program Narrative***

**Certificate of Completion | 30 credits**

**Program Website** https://www.slcc.edu/sltech/areas/electronics/automation-instrumentation-technician.aspx

**Academic Advising**

**Program Description**
The Automation Technology program supports a wide variety of mechanical and automated systems. This program is designed to help prepare students with the necessary skills to become technicians in several critical industries. Students are introduced to a wide variety of tools, practices, and procedures. The program uses a competency based hands-on approach, with other teaching methods that are employed throughout

**Career Opportunities:**

## Detail for CIP Code 47.0303

## **Title:** Industrial Mechanics and Maintenance Technology.

**Definition:** A program that prepares individuals to apply technical knowledge and skills to repair and maintain industrial machinery and equipment such as cranes, pumps, engines and motors, pneumatic tools, conveyor systems, production machinery, marine deck machinery, and steam propulsion, refinery, and pipeline-distribution systems.

**Sample of reported job titles:** , Automation Technician, Electrical and Instrumentation Technician (E and I Technician), Instrument and Automation Technician, Instrument Specialist, Instrument Technician, Instrumentation and Controls Technician, Instrumentation and Process Controls Technician, Process Control Technician, Programmable Logic Controllers Technician.

## Workforce Characteristics - O-Net

## Wages & Employment Trends

**Median wage data for Electro-Mechanical and Mechatronics Technologists and Technicians.**
**Employment data for Electro-Mechanical and Mechatronics Technologists and Technicians.**
**Industry data for Electro-Mechanical and Mechatronics Technologists and Technicians.**
**Median wages (2022) $29.12 hourly, $60,570 annual**

Projected job openings (2022-2032) 1,300

**Estimated Cost for Students**

Tuition and student fees: http://www.slcc.edu/satts/cost-financial-aid.aspx.

Please visit the program website for up-to-date cost information.

**Program Entry Requirements**

CASAS Test Required:

- Basic Computer Literacy
- Reading: 8.0
- Math: 10.0
- Ability to distinguish differences in color

**Program Narrative Check***

- [x] Program Description
- [x] Career Opportunities
- [x] Course Fees
- [ ] Transfer Articulation Information
- [x] Gainful Employment
- [x] Program Entry Requirements
- [ ] Specialized Accreditation

## General Education

**For AAS Degree only, what is the number of Distribution courses required.**

**Does the program include embedded, recommended or required specific General Education?***

- [ ] Yes, Required or Embedded
- [ ] Yes, Recommended
- [x] No

**What General Education are embedded, recommended or required?**

**Rationale for embedded, recommended or required General Education in the program.**

## Curriculum

**Total Credits/Hours*** 30

**Estimated Time to Completion*** 2

**Program Curriculum***

## Program Requirements

**Certificate of Program Completion, 30 Credits/900 Clock-Hours Required**

## Required Courses (30 credits)

**Required Core (21 Credits/630 Clock-Hours)**

| | | | |
|---|---|---|---|
| TEAM 1010 | Essential Skills and Safety | 3 Credits | 90 Clock-hours |
| TEAM 1020 | Pneumatics | 2 Credits | 60 Clock-hours |
| TEAM 1030 | Hydraulics | 2 Credits | 60 Clock-hours |
| TEAM 1040 | Industrial Mechanics | 3 Credits | 90 Clock-hours |
| TEAM 1050 | Electrical Systems | 2 Credits | 60 Clock-hours |
| TEAM 1060 | Motor Controls | 3 Credits | 90 Clock-hours |
| TEAM 1070 | Programmable Logic Controllers | 4 Credits | 120 Clock-hours |
| TEAM 1080 | Applied System Diagnostics | 2 Credits | 60 Clock-hours |

**Electives (9 Credits/270 Clock-Hours) - Select one emphasis track**

**Emphasis Advanced Programmable Logic Controllers:**

| | | | |
|---|---|---|---|
| TEAM 2010 | Programmable Logic Controllers II | 4 Credits | 120 Clock-Hours |
| TEAM 2025 | HMI Programming | 2 Credits | 60 Clock-Hours |
| TEAM 2040 | PLC Troubleshooting | 2 Credits | 60 Clock-Hours |
| TEAM 2080 | PLC Capstone Project | 1 Credits | 30 Clock-Hours |

**Emphasis Process Control Level/Flow:**

| | | | |
|---|---|---|---|
| TEAM 1520 | Process Control Level/Flow | 4 Credits | 120 Clock-Hours |
| TEAM 1580 | Process Capstone Project | 2 Credits | 60 Clock-Hours |
| TEAM 2200 | Troubleshooting Automated Systems | 3 Credits | 90 Clock-Hours |

**Emphasis Motor Control Systems:**

| | | | |
|---|---|---|---|
| TEAM 1610 | Electric Motor Control Systems | 4 Credits | 120 Clock-Hours |
| TEAM 1680 | Motor Capstone Project | 2 Credits | 60 Clock-Hours |
| TEAM 2200 | Troubleshooting Automated Systems | 3 Credits | 90 Clock-Hours |

## Time to Completion

Approximately 2 to 3 semesters

## Program Learning Outcomes/Objectives

Program learning outcome alignment with Student Learning Outcomes in brackets.

### Required Aligned Core Courses

Demonstrate a working knowledge of mechanical systems, maintenance, troubleshooting, repair techniques, and safety practices and procedures.[1,4]
Apply system diagnostics and troubleshooting techniques. [1,4]
Apply mathematical concepts to real world applications. [1,4]
Read, utilize, and design blueprints and schematics.[1,4]
Operate, install, maintain, modify, and troubleshoot electrical systems. [1,4]
Operate, install, maintain, modify, and troubleshoot fluid power systems.[1,4]
Operate, install, maintain, modify, and troubleshoot electrical motor control systems.[1,4]
Operate, modify, maintain, program, and troubleshoot programmable logic controllers.[1,4]
Implement and properly use a variety of precision measurement tools and procedures[1,4]

### Required - Select one emphasis track below:

### Advanced Programmable Logic Controllers (PLC) Track:

Utilize Allen Bradley PLC hardware and Studio 5000 software to create various industry control applications. [1,4]
Program, connect and operate a basic terminal human machine interface (HMI) panel controlled by a PLC program.[1,4]
Perform PLC troubleshooting, identifying types of PLC faults, use PLC diagnostics indicators and resolve faults. [1,4]
Complete a PLC capstone project that functions properly, using industry hardware/software, sensors, input/output devices and HMI panel.[1,4]

### Process Control Level/Flow Track:

Identify definitions related to process control, safety, the elements of a process control system, and the general requirements of a control system.[1,4]
Explain instrument tags, block diagrams, piping and Instrumentation diagrams.[1,4]
Demonstrate the use of loop controllers, parameters, and manual

Demonstrate the use of loop controllers, parameters, and manual operation. [1,4]

Implement methods of automatic control for flow and level.[1,4]
Troubleshoot process control systems.[1,4]
Complete a process control capstone; setup, connect and program a basic process automatic level/flow control system.[1,4]
Calibrate and use an industrial flow transmitter.[1,4]
Use PID controllers for flow and level.[1,4]
Troubleshoot and repair electrical relays, motors and control circuits. [1,4]
Follow safety procedures to avoid injury.[1,4]

**Motor Control Systems Track:**

Interpret electrical drawings including various symbols, abbreviations, ladder diagrams, wiring-single line- block diagrams, motor terminal connections, motor nameplate, and terminology.[1,4]
Identify motor transformers and distribution systems, power distribution systems, transformer principles, and transformer connections.[1,4]
Use various motor control devices including manually operated switches, mechanically operated switches, sensors, and actuators. [1,4]
Connect and operate motor control circuits including motor starting, motor reversing, jogging, motor stopping, speed control devices, variable frequency drives and timers.[1,4]
Troubleshoot and repair electrical relays, motors and control circuits. [1,4]
Follow safety procedures to avoid injury.[1,4]
Complete a motor capstone project; proper setup and wiring of required hardware for AC/DC motor control applications that meets NEC industry standards. [1,4]

**I have reviewed/updated the Program Curriculum Schema.**

- [x] Yes
- [ ] No

## Learning Outcomes

*Review the Curriculum Schema tab above within Program Curriculum, at the end you will find the program-level student learning outcomes with the indication as to how they align to the SLCC Student Learning Outcomes in brackets.*

*These are not in separate fields below to facilitate integration with the catalog and remove errors that occur with manual processes.*

**See SLCC Assessment webpage for additional details about College-Wide Student Learning Outcomes.**

**1. Acquire substantive knowledge**
**2. Communicate effectively**
**3. Develop quantitative literacies**
**4. Think critically**
**5. Express creatively**
**6. Knowledge and skills to be civically engaged**
**7. Work with others in a professional and constructive manner**
**8. Develop information literacy**
**9. Develop computer literacy**

**I have reviewed/updated the program learning outcomes within the Program Curriculum Schema and verified their alignment with the Student Learning Outcomes listed above.*** ☑ Yes ☐ No

## Acknowledgements and Attachments

**Please attach any required files by navigating to the right side menu and clicking "Files". Record when this has been completed in the checkbox, below.**

**Acknowledgement*** ☑ I acknowledge that all areas of this proposal are complete as required for this proposal.
☑ Program Pathway (PCO4 template found on Curriculum SharePoint)
☑ R401
☐ Articulation Agreement (for all AS & AA degrees)
☑ Gainful Employment (for Certificates of Completion)
☐ Financial Aid Evaluation

**Acalog Program OID**

**Acalog Owner**

**Alpha Ordering** A

# Utah System of Higher Education

Automation Technology

FY2025 / 30 Credits (900 Clock-Hours)

| Automation Technology | | | |
|---|---|---|---|
| Institutions: Bridgerland, Davis, Mountainland, Ogden-Weber, Salt Lake, Snow, Southwest, Tooele | | | |
| *Certificate of Program Completion (Catalog Year: 2025, 30 Credits/900 Clock-Hours Required, CIP: 47.0303)* | | | |
| **Core (21 Credits/630 Clock-Hours)** | | **Credits** | **Clock-Hours** |
| TEAM 1010 | Essential Skills and Safety | 3 | 90 |
| TEAM 1020 | Pneumatics | 2 | 60 |
| TEAM 1030 | Hydraulics | 2 | 60 |
| TEAM 1040 | Industrial Mechanics | 3 | 90 |
| TEAM 1050 | Electrical Systems | 2 | 60 |
| TEAM 1060 | Motor Controls | 3 | 90 |
| TEAM 1070 | Programmable Logic Controllers | 4 | 120 |
| TEAM 1080 | Applied System Diagnostics | 2 | 60 |
| **Electives (9 Credits/270 Clock-Hours)** | | | |
| ***Bridgerland Technical College*** | | | |
| TEAM 1100 | Electric Motors and Drives | 1 | 30 |
| TEAM 1110 | Introduction to Industrial Robotics | 2 | 60 |
| TEAM 1120 | 3D Modeling | 2 | 60 |
| TEAM 1125 | Solidworks CSWA Certification | 1 | 30 |
| TEAM 1700 | Introduction to Studio 5000 | 1 | 30 |
| TEAM 1200 | HVAC Refrigeration | 3 | 90 |
| TEAM 1300 | Building Control Panels | 3 | 90 |
| TEAM 1005 | Computer Tools for Technology | 1 | 30 |
| TEAM 1003 | Spreadsheets for Automation | 2 | 60 |
| TEAM 1400 | GD&T Blueprint Reading | 2 | 60 |
| TEAM 1450 | Introduction to Quality | 2 | 60 |
| TEAM 1500 | Instrumentation Process Control | 3 | 90 |
| TEAM 1900 | Automated Technology Externship | 4 | 180 |
| TEET 1020 | Electronics Assembly and Soldering | 1 | 30 |
| TEET 1030 | DC Electronics | 4 | 120 |
| TEET 1040 | AC Electronics | 4 | 120 |
| TEET 1070 | Microcontrollers I | 2 | 69 |
| TEET 1075 | Microcontrollers II | 2 | 60 |
| TEMT 1005 | Machining for Manufacturing Trades | 3 | 90 |
| TEWT 1005 | Welding Overview | 3 | 90 |
| TEWT 1105 | Welding Qualifications | 3 | 90 |
| ***Davis Technical College*** | | | |
| TEAM 1015 | Electronic Fundamentals for Industrial Automation | 4 | 120 |
| TEAM 1800 | Renewable Energy | 2 | 60 |
| TEAM 1810 | Lean Manufacturing (Six Sigma) | 1 | 30 |
| TEAM 1210 | Plumbing for Automation Technology | 1 | 30 |
| TEAM 1200 | HVAC Refrigeration | 3 | 90 |
| TEAM 1170 | UAV Drone Technology | 1 | 30 |
| TEAM 1820 | Semiconductor Devices | 4 | 120 |
| TEAM 1300 | Building Control Panels | 3 | 90 |
| TEAM 1500 | Instrumentation Process Control | 3 | 90 |
| TEAM 1550 | Process Technology Equipment and Systems Operators | 3 | 90 |
| TEAM 1600 | Microcontroller and Microprocessor Programming | 2 | 60 |
| TEAM 1620 | Electronics Assembly and Soldering | 2 | 60 |

UTAH SYSTEM OF HIGHER EDUCATION

# Utah System of Higher Education

Automation Technology

FY2025 / 30 Credits (900 Clock-Hours)

| | | | |
|---|---|---|---|
| TEAM 1830 | Aerospace Technician | 2 | 60 |
| TEAM 1910 | Automation Externship | 3 | 90 |
| TEDR 1005 | Interpreting Engineering Drawings | 1 | 30 |
| TEMT 1001 | Introduction to Machining | 2 | 60 |
| WKSK 1500 | Job Seeking Skills | 1 | 30 |
| TEWT 1008 | Welding for Manufacturing | 2 | 60 |
| TEAM 1105 | Electric Motor Drives | 3 | 90 |
| TEAM 1135 | FANUC IR Vision Systems | 1 | 30 |
| TEAM 1137 | Vision System Basics | 1 | 30 |
| TEAM 2020 | Human Machine Interface Programming | 3 | 90 |
| TEAM 2000 | Programmable Logic Controllers II | 3 | 90 |
| TEAM 1140 | Industrial Robotics | 3 | 90 |
| TEAM 1710 | Industrial Networking | 3 | 90 |
| TEAM 1720 | Controls in Integration | 3 | 90 |
| TEAM 2800 | Final Project | 1 | 30 |
| ***Mountainland Technical College*** | | | |
| TEAM 1625 | Electronics Soldering | 1 | 30 |
| TEAM 1115 | Robotics I | 1 | 30 |
| TEAM 1615 | Conduit Bending | 1 | 30 |
| TEAM 2300 | Introduction to RF Plasma | 1 | 30 |
| TEAM 1590 | Introduction to Statistical Process Control | 1 | 30 |
| TEAM 1840 | Introduction to Semiconductor Manufacturing | 2 | 60 |
| TEAM 1630 | Sensors and Timers | 2 | 60 |
| TEAM 1670 | Wiring Boards | 1 | 30 |
| TEAM 1112 | Rotating Machines | 2 | 60 |
| TEAM 2030 | HMI & PLC Troubleshooting | 3 | 90 |
| TEAM 1130 | FANUC Robot | 1 | 30 |
| TEAM 2145 | Electro-Fluid Power | 1 | 30 |
| TEAM 1240 | Welding Simulator | 1 | 30 |
| TEAM 1122 | SolidWorks | 1 | 30 |
| TEAM 1730 | Basic VFD Operation | 1 | 30 |
| TEAM 1045 | Mechanical Drives and Laser Alignment | 2 | 60 |
| ***Ogden-Weber Technical College*** | | | |
| TEAM 1650 | Advanced Electrical Systems | 3 | 90 |
| TEAM 1660 | Advanced Motor Controls | 3 | 90 |
| TEAM 1145 | Industrial Robotics | 3 | 90 |
| ***Salt Lake Community College*** | | | |
| ***Emphasis Advanced Programmable Logic Controllers (PLC) Track*** | | | |
| TEAM 2010 | Programmable Logic Controllers II | 4 | 120 |
| TEAM 2025 | HMI Programming | 2 | 60 |
| TEAM 2040 | PLC Troubleshooting | 2 | 60 |
| TEAM 2080 | PLC Capstone Project | 1 | 30 |
| ***Emphasis Process Control Level/Flow*** | | | |
| TEAM 1520 | Process Control Level/Flow | 4 | 120 |
| TEAM 1580 | Process Capstone Project | 2 | 60 |
| TEAM 2200 | Troubleshooting Automated Systems | 3 | 90 |
| ***Emphasis Motor Control Systems*** | | | |
| TEAM 1610 | Electric Motor Control Systems | 4 | 120 |
| TEAM 1680 | Motor Capstone Project | 2 | 60 |

UTAH SYSTEM OF HIGHER EDUCATION

# Utah System of Higher Education

Automation Technology

FY2025 / 30 Credits (900 Clock-Hours)

| | | | |
|---|---|---|---|
| TEAM 2200 | Troubleshooting Automated Systems | 3 | 90 |
| ***Snow College*** | | | |
| TEAM 2100 | Industrial Mechanics II | 2 | 60 |
| TEAM 2045 | Programmable Logic Controllers Troubleshooting | 2 | 60 |
| TEAM 2110 | Laser Shaft Alignment | 2 | 60 |
| TEAM 2120 | Vibration Analysis | 2 | 60 |
| TEAM 2130 | Industrial Rigging | 2 | 60 |
| TEAM 2140 | Industrial Hydraulics Troubleshooting | 3 | 90 |
| TEAM 2150 | Industrial Pumps | 3 | 90 |
| ***Southwest Technical College*** | | | |
| TEAM 2005 | Programmable Logic Controllers II | 3 | 90 |
| TEAM 2210 | Fabrication & Repair | 3 | 90 |
| TEAM 1510 | Process Control Components & Systems | 2 | 60 |
| TEAM 1640 | Electrical Systems II | 1 | 30 |
| ***Tooele Technical College*** | | | |
| TEAM 1220 | Introduction to Manual Machining | 5 | 150 |
| TEAM 1230 | Welding for Automation Technology | 4 | 120 |

UTAH SYSTEM OF HIGHER EDUCATION

# Utah System of Higher Education

Automation Technology
FY2025 / 30 Credits (900 Clock-Hours)

## PROGRAM DESCRIPTION

The Automation Technology program supports a wide variety of mechanical and automated systems. This program is designed to help prepare students with the necessary skills to become technicians in several critical industries. Students are introduced to a wide variety of tools, practices, and procedures. The program uses a competency based hands-on approach, with other teaching methods that are employed throughout.

Objectives:

- Demonstrate a working knowledge of mechanical systems, maintenance, troubleshooting, repair techniques, and safety practices and procedures.
- Apply system diagnostics and troubleshooting techniques.
- Apply mathematical concepts to real world applications.
- Read, utilize, and design blueprints and schematics.
- Operate, install, maintain, modify, and troubleshoot electrical systems.
- Operate, install, maintain, modify, and troubleshoot fluid power systems.
- Operate, install, maintain, modify, and troubleshoot electrical motor control systems.
- Operate, modify, maintain, program, and troubleshoot programmable logic controllers.
- Implement and properly use a variety of precision measurement tools and procedures.

## COURSE DESCRIPTIONS

### Essential Skills and Safety — 3 Credits/90 Clock-Hours

The Essential Skills and Safety course teaches the basic concepts and terminology used in automation technology. Students gain proficiency through applying concepts of fasteners, measurement equipment, tolerances, and hand and power tool operations. The course covers safety and workplace skills as well as school and shop specific operations, standards, and procedures.

Objectives:

- Demonstrate a working knowledge of general safety practices and procedures.
- Demonstrate a working knowledge of hand, power, and measurement tools.
- Demonstrate a working knowledge of hardware and fasteners.
- Apply working knowledge of workplace skills.
- Review school specific orientation, standards, and procedures.

### Pneumatics — 2 Credits/60 Clock-Hours

The Pneumatics course prepares students with the fundamentals needed to work with pneumatic systems. Pneumatic systems are used in a variety of industries where cleaner, faster, and more cost-effective work needs to be done. Competencies include safety, maintenance, operation, installation, component identification, principles of pressure and flow, air logic, troubleshooting, analysis of performance and efficiency, and design of pneumatic systems.

Objectives:

- Demonstrate a working knowledge of safety practices and procedures of pneumatic systems.
- Operate, install, and maintain pneumatics systems, tools, and devices.
- Read, utilize, and design pneumatic systems schematics.
- Analyze applications and design of pneumatic systems.

- Apply systems diagnostics and troubleshooting of pneumatic circuits.

**Hydraulics** **2 Credits/60 Clock-Hours**

The Hydraulics course prepares students with the fundamentals needed to work with hydraulic systems. Hydraulic systems are used in a variety of industries where extra force may be required. Competencies include safety, maintenance, operation, installation, component identification, displacement principles, troubleshooting, analysis of performance and efficiency, and design of hydraulic systems.

Objectives:

- Demonstrate a working knowledge of safety practices and procedures of hydraulic systems.
- Operate, install, maintain hydraulic systems, tools, and devices.
- Read, utilize, and design hydraulic system schematics.
- Analyze applications and design of hydraulic systems.
- Apply systems diagnostics and troubleshooting of hydraulic circuits.

**Industrial Mechanics** **3 Credits/90 Clock-Hours**

The Industrial Mechanics course is designed to introduce students to the world of mechanical drive systems and their characteristics. Students can demonstrate competency in the following: couplers, component identification, system related calculations, alignment, the effects of wear and vibration, component failure detection and prevention.

Objectives:

- Demonstrate a working knowledge of safety practices and procedures.
- Maintain, calibrate, and repair power transmission systems.
- Maintain, calibrate, analyze, and repair mechanical drives (v-belt, chain, gear drive).
- Use and apply vibration and alignment measurement instrumentation and techniques.
- Troubleshoot mechanical drive components and systems.

**Electrical Systems** **2 Credits/60 Clock-Hours**

The Electrical Systems course teaches students to troubleshoot most electrical circuits they encounter in everyday life. Our world runs on electrical power and is fundamental to all work being done in automation. Students in this course gain relevant working knowledge in both AC & DC electrical systems. Competencies include basic electrical circuit design, analysis, troubleshooting, instrumentation, schematic and component identification, physics of electricity and applicable math.

Objectives:

- Demonstrate a working knowledge of safety practices and procedures of basic electrical systems.
- Operate, install, maintain electrical systems, tools, and devices.
- Read, utilize, and design electrical systems schematics.
- Apply principles and applications of electrical AC and DC systems.
- Apply systems diagnostics and troubleshooting of electrical circuits.

**Motor Controls** **3 Credits/90 Clock-Hours**

The Motor Controls course prepares students with a working knowledge and understanding of real-world motor control operations. Students who complete this course are able to proficiently setup and design

motor control circuits utilizing schematics. Students in this course identify components and utilize instrumentation to troubleshoot and maintain systems.

Objectives:

- Demonstrate a working knowledge of safety practices and procedures.
- Operate, install, maintain, and design motor control circuits.
- Demonstrate a working knowledge of commonly used components, devices, and tools.
- Demonstrate a working knowledge of various control systems.
- Apply systems diagnostics and troubleshooting of motor control circuits.

**Programmable Logic Controllers** **4 Credits/120 Clock-Hours**

The Programmable Logic Controllers course teaches students to interface with programmable logic controllers (PLCs). Programmable logic controllers are the brains of all modern automation technology systems. In this course students develop a working knowledge and skill set in the following competencies: ladder logic, programming standards, hardware selection, various inputs and outputs, communication, troubleshooting, setup and installation.

Objectives:

- Demonstrate a working knowledge of safety practices and procedures.
- Operate, install, maintain, and program programmable logic controller systems.
- Demonstrate working knowledge of ladder logic programming.
- Apply motor control logic within a programmable logic controller system.
- Apply timers and event sequencing within a programmable logic controller system.
- Configure inputs and outputs for various applications.
- Apply systems diagnostics and troubleshooting of programmable logic control circuit.

**Applied System Diagnostics** **2 Credits/60 Clock-Hours**

The Applied System Diagnostics course covers the essentials of system diagnostics, the essence of what a technician does day to day. This course is designed to simulate real world troubleshooting scenarios. Students apply troubleshooting methodology by using all of the skills that they have learned so far in the program. Students are expected to properly diagnose, repair, and document their work on a variety of systems and challenges.

Objectives:

- Demonstrate a working knowledge of safety practices and procedures.
- Troubleshoot an entire system using pre-defined schematics.
- Complete standard technician documentation.
- Use troubleshooting instrumentation within multiple systems.

**NON-ALIGNED (ELECTIVE) COURSES**
**Bridgerland Technical College**

**Electric Motors and Drives** **1 Credit/30 Clock-Hours**

The Electric Motors and Drives course covers the identification of the operating characteristics and nameplate information of most types of electric motors. Students evaluate the operation of AC motors and DC Motors such as the series, shunt, and compound motors. Students use a mega-ohm-meter (meggar) to troubleshoot and test motor windings. This course introduces students to electric motor drives; they will

install and program an electric motor drive for motor speed control, including ramp-up and ramp-down parameters. Students learn how three-phase alternating current (AC) is generated in Delta or Wye circuits. Lab work will reinforce the theory.

Objectives:

- Recognize various types of electric motors.
- Use the nameplate information on a motor for troubleshooting.
- Wire single and three-phase motors.
- Identify the operating characteristics, nameplate information, and troubleshooting procedures for single-phase motors, generators, AC/DC motors, control transformers, distribution systems, and Delta and Wye transformer configurations.
- Identify the operating characteristics, nameplate information, and troubleshooting procedures for three-phase motors – Delta or Wye connected 9 or 12 lead motors.
- Install and troubleshoot electric motor drives.
- Perform a complete motor control panel build and wiring exercise from a schematic.
- Use schematic drawings and test equipment to isolate problems in basic electric motor circuits.
- Follow a step-by-step troubleshooting process to solve problems within an integrated system.

**Introduction to Industrial Robotics** **2 Credits/60 Clock-Hours**

In the Introduction to Industrial Robotics course, students are introduced to industrial robot architecture, arithmetic, programming, and simulation. Emphasis is placed on laboratory experiments dealing with simple robot programming, and program execution. In this project-based course, students are given industry-recognized simulation software for lab completion. A hands-on experience with real industrial robots is also required.

Objectives:

- Determine the working specifications and architecture of a robot arm.
- Calculate necessary arithmetic, geometry, and trigonometry relative to robot arms.
- Program a robot arm through industry specific simulation software.
- Test and execute robot arm programs in industry recognized simulators.
- Test and execute a robot arm program with industrial robots.
- Identify what types of robots are available for Industrial and servicing applications.

**3D Modeling** **2 Credits/60 Clock-Hours**

In the 3D Modeling course, students learn concepts and techniques of 3D, feature-based, parametric modeling using SolidWorks as the modeling tool. Students learn the SolidWorks user interface, menus, toolbars, and commands used to create 2D sketches, 3D parts and assemblies. Learn how to build design intent into models with the use of relations, dimensions, and assembly mates. All concepts covered on the CSWA (Certified SolidWorks Associate) exam are taught. This course covers enough material to allow maintenance technicians to design brackets, tooling, precision fixtures, safety guarding and similar parts to keep existing equipment working and also to make improvements where needed.

Objectives:

- Use the SolidWorks program and user interface.
- Recognize the file formats and document properties used with SolidWorks.
- Customize SolidWorks to fit users' needs.

- Manipulate model views and orientation.
- Practice the fundamentals of fully defining 2D sketches and 3D geometry.
- Perform basic and advanced feature creation to build models.
- Create assemblies from modeled components.
- Create 2D drawings from parts and assemblies.

**Solidworks CSWA Certification** **1 Credit/30 Clock-Hours**

The Solidworks CSWA Certification course is designed to help students who have already completed the 3D Modeling course prepare to pass the CSWA Solidworks certification test.

Objectives:

- Prepare to take the CSWA Solidworks exam by completing practice tests.
- Review common Solidworks tasks and problems.

**Introduction to Studio 5000** **1 Credit/30 Clock-Hours**

The Introduction to Studio 5000 course introduces students to Rockwell Software's Studio 5000 and a CompactLogix processor. Students learn networking, connection to a PLC using RSLinx, Studio 5000 tags, and addressing IO. Students perform various labs intended to increase familiarity and competency in the Studio 5000 and CompactLogix environments.

Objectives:

- Describe an ethernet network.
- Connect the RSLinx to a PLC via an ethernet network.
- Use tags in Studio 5000.
- Edit a PLC program using Studio 5000.
- Program several tasks using a CompactLogix PLC and Studio 5000.

**HVAC Refrigeration** **3 Credits/90 Clock-Hours**

In the HVAC Refrigeration course, students learn HVAC-R plus components and the principles of heating and air conditioning. Basic refrigeration systems and applications will be introduced, and preparation for the EPA 608 certification for refrigerant gases will be completed.

Objectives:

- Demonstrate knowledge of HVAC safety practices and procedures.
- Measure head pressure in a tube
- Heat and cool a room using a standard heat pump-based HVAC system.
- Set up and properly adjust a furnace system.
- Apply systems diagnostics and troubleshooting of HVAC systems.

**Building Control Panels** **3 Credits/90 Clock-Hours**

In the Building Control Panels course, students will learn about control panel assembly, standards, skills, and practice. Industrial Control Panel standards are utilized, and special panel building tools are taught.

Objectives:

- Demonstrate knowledge of common control panel safety practices and procedures.

- Create a plan for a panel build project including electrical conduit capacity calculations, enclosure size, wire number and size, component placement.
- Demonstrate ability to correctly read and mark wiring prints.
- Demonstrate proper component layout and organization.
- Modify panel enclosures.
- Demonstrate proper wiring standards in regards to size, type, and color.
- Layout, mount, and wire a complete Control Panel while implementing UL508A standards.

**Computer Tools for Technology** **1 Credit/30 Clock-Hours**

In the Computer Tools for Technology course, students learn common software and systems used by technicians. This course provides a fundamental understanding of computing including knowledge and use of computer hardware, software, operating systems, networking, and router security. The course covers basic use and common features of applications including internet use, e-mail, spreadsheets, and Google drive applications.

Objectives:

- Identify computing fundamentals such as computer hardware, software, and operating systems.
- Navigate the Windows environment.
- Demonstrate the use of spreadsheets.
- Demonstrate the use of Google applications.
- Demonstrate the use of pdf files.
- Achieve proficient typing speed.

**Spreadsheets for Automation** **2 Credits/60 Clock-Hours**

In the Spreadsheets for Automation course, students learn spreadsheet functions and applications commonly used in industrial processes and quality control. Students learn how to design, create, manipulate, calculate, and present data. Students apply spreadsheet techniques in developing formulas and applications for industrial settings.

Objectives:

- Input and format data.
- Insert formulas and functions in worksheets.
- Name and utilize range names in formulas.
- Create equations using relative and absolute cell references.
- Create conditional statements using formulas.
- Use match and index functions.
- Apply power functions.
- Correctly apply math functions.
- Correctly apply date and time functions.
- Correctly apply reference functions.

**GD&T Blueprint Reading** **2 Credits/60 Clock-Hours**

In the GD&T Blueprint Reading course, students learn advanced principles and techniques of production drawings such as geometric dimensioning and\or tolerancing, assembly and production dimensioning, general tolerancing, symbols and terms, geometric characteristics, classes of fit, surface quality, and production specifications.

Objectives:

- Identify various GD&T symbols and terms used in production drawings.
- Produce general tolerancing to produced drawings.
- Produce feature control frames and properly place on drawings.
- Produce drawings with proper GD&T symbols attached.

**Introduction to Quality** **2 Credits/60 Clock-Hours**

In the Introduction to Quality course, students learn the concepts underlying quality control and develop their ability to apply those concepts to the design and management of quality control processes in industries. Major topics include the tools for descriptive and predictive statistical analysis, design and use of various control charts for quality control, process characterization and capability analysis, R&R gauge capability studies, design of experiments, acceptance sampling and continuous improvement. The emphasis will be on ensuring that the students gain both a broad perspective of quality control as well as the technical skills necessary to implement quality control in any industrial setting.

Objectives:

- Analyze data required for process/line verification.
- Apply calibration principles in measuring and instrumentation tools.
- Run and evaluate Measurement System Analysis (MSA).
- Apply principles of Advanced Product Quality Planning (APQP).
- Read and understand a PFMEA and control plan.
- Write work instructions and visual inspection guides.

**Instrumentation Process Control** **3 Credits/90 Clock-Hours**

In the Instrumentation Process Control course students are introduced to the concepts and terminology of Instrumentation-Process Control using theory and a hands-on approach used in refineries, water treatment plants, boilers, HVAC, refrigeration systems, and many other temperature, pressure, level, flow, analysis, transmission and communication, and automatic control applications.

Objectives:

- Demonstrate knowledge of safety practices and procedures.
- Demonstrate the ability to set up multiple process control sensors.
- Demonstrate ability to manually and automatically adjust valves.
- Wire and actuate a valve positioner and solenoid valve.
- Setup common components such as control valves, regulators, dampers, actuators, positioners, solenoid valves, and variable frequency drives within a standard system.
- Calibrate and install temperature, pressure, level, and flow instruments.
- Use troubleshooting instrumentation competently within multiple systems.

**Automated Technology Externship** **4 Credits/180 Clock-Hours**

The Automated Manufacturing Externship course is a practical approach to acquiring new competencies and skills needed for a job in a real working environment that are either difficult to gain in a classroom setting or specific to certain employers. Students learn how to use particular tools or equipment specific to an employer in a live-work practice environment. Students learn workplace expectations, equipment operation, and any other skill they need to enhance their current skill sets and become more valuable to their employer. A supervisor and the student initially set objectives, experiences, and competencies that are also approved by the supervising institutional instructor. The supervisor evaluates and reports the

student's strengths and weaknesses upon completion of the training. Instructors meet with students to review the evaluation reports.

Objectives:

- Apply the knowledge and skills attained in the program of study to real-world work experience.
- Work safely, effectively, and efficiently in installing, troubleshooting, and repairing the following systems: pneumatics, hydraulics, electric motors, electric motor controls, electronic, programmable logic controllers, mechanical applications, and blueprint reading.
- Work effectively in downtime situations.
- Communicate effectively with management, technicians, and production associates.
- Demonstrate proper work ethics, teamwork, and personal management skills.

**Electronics Assembly and Soldering** **1 Credit/30 Clock-Hours**

In the Electronics Assembly and Soldering course, students develop the ability to solder and desolder connectors, components, and printed circuit boards using industry standards. Topics include component identification, safety practices, soldering, desoldering, anti-static grounding, and surface mount techniques.

Objectives:

- Apply ESD industry safety and handling practices.
- Select the proper hand-tools and materials for an assembly procedure.
- Maintain and utilize soldering equipment.
- Prepare wire for electronic assemblies and complete wire splices.
- Solder wires to various terminals.
- Solder axial-leaded and multi-leaded through-hole components.
- Solder surface-mount components.
- Identify components, hardware, and wires.

**DC Electronics** **4 Credits/120 Clock-Hours**

The DC Electronics course covers direct current (DC) basics, electrical safety, components, Ohms law and power calculations, electrical measurements, series and parallel circuits, and power supplies. The course is a balance of theory, and hands-on, including measurements, troubleshooting, and circuit construction.

Objectives:

- Recognize and describe electronic circuits, systems, and electrical hazards while practicing basic safety protocols.
- Use the relationships between voltage, resistance, and current to analyze DC circuits with Ohm's and power law equations.
- Use, test, and select various electronic components as needed to prototype circuits using schematic diagrams.
- Analyze the properties of magnetism.
- Utilize different types of multimeters to perform electronic measurements of voltage, current and resistance.
- Perform series, parallel and series-parallel combination circuits calculations and measurements, analyze circuits for faulty components.

- Analyze voltage divider, bridge, maximum power transfer circuits.
- Apply Kirchhoff's voltage and current laws to analyze complex DC circuits using theorem analyses.

**AC Electronics** **4 Credits/120 Clock-Hours**

The AC Electronics course covers the principles of alternating current (AC), inductance, capacitance, transformers, RC, RL, RCL principles and circuits. It also covers passive filters, AC calculations and measurements, troubleshooting, and use of oscilloscopes and function generators.

Objectives:

- Apply alternating current fundamentals of voltage, current, resistance and Ohm's law.
- Apply function generators and oscilloscopes to AC circuits.
- Determine values and measure characteristics of transformers.
- Use schematic diagrams and symbols to prototype AC circuits.
- Explain the use of capacitors and inductors.
- Perform RL and RC series and parallel circuit calculations and measurements including filter and time constant circuits.
- Analyze the characteristics of series and parallel resistive/reactive (RCL) circuits.
- Discuss series and parallel resonance circuits.

**Microcontrollers I** **2 Credits/60 Clock-Hours**

The Microcontrollers I is a study in microcontroller architecture, arithmetic, programming, and interfacing. Emphasis placed on laboratory experiments dealing with microcontroller circuit build, program execution and interfacing. In this project-based course students will be given a platform to work with from several available on the market such as Arduino, Microchip, or others. Students will put together a series of projects that they design, build, program, and test for the instructor's approval.

Objectives:

- Design and build microcontroller circuits.
- Program and test microcontroller circuits using structured text.
- Apply peripheral interfacing in software and hardware.
- Use interrupt control.
- Use software development tools.
- Use a C based programming language.

**Microcontrollers II** **2 Credits/60 Clock-Hours**

The Microcontroller II course is an advanced study in microcontroller architecture, arithmetic, programming, and interfacing. Emphasis placed on laboratory experiments dealing with microcontroller circuit build, program execution and interfacing. This course includes advanced topics and projects such as communication interfaces, I2C bus, SPI bus, interfacing with liquid crystal displays, hardware and timer interrupts, and data logging with SD cards. An integrated final project is required.

Objectives:

- Design and build advanced microcontroller circuits.
- Program and test advanced microcontroller circuits.
- Apply advanced peripheral interfacing in software and hardware.

**Machining for Manufacturing Trades** **3 Credits/90 Clock-Hours**

This is a course to support manufacturing programs related to machining. It gives students a working overview of industrial machine shop practice. This course is designed to teach principles and techniques of manufacturing processes by learning to operate the lathe and mill. Students will be trained in areas of blueprint reading, hand tools, machining and part inspection, all with the use of manual machines.

Objectives:

- Identify safe practices in a machine shop.
- Identify correct clean up procedures.
- Demonstrate basic layout procedures.
- Reading and interpreting blueprints.
- Safely setup and operate a band saw.
- Safely operate a bench grinder and hand tools.
- Accurately use and read steel rules, micrometers, and calipers.
- Perform safe and effective use of lathes and milling machines.
- Perform basic programming and use controls of a CNC machine.

**Welding Overview** **3 Credits/90 Clock-Hours**

This course is designed to provide students with the basic knowledge and experience to perform oxyacetylene welding, brazing, and cutting. It will teach fundamentals in a Shielded Metal Arc and Gas Metal Arc Welding. Gas Tungsten Arc Welding will also be introduced. Students will learn to run beads, groove, and fillet welds in butt, tee, and lap joints.

Objectives:

- Setup welding equipment.
- Perform safety inspections of equipment and accessories.
- Light torch and demonstrate oxidizing, neutral, and carborizing flames.
- Weld butt, lap, and tee joints in flat position oxyacetylene.
- Braze weld butt, lap, and tee joints.
- Weld butt, lap, and tee joints with arc welding processes.

**Welding Qualifications** **3 Credits/90 Clock-Hours**

This advanced welding course teaches students to set up, weld, and test selected welder qualification plates. Weld qualifications can be earned in the Gas Metal Arc, and Shielded Metal Arc Processes. All welding will comply with the AWS D1.1 Structural Welding Code – Steel.

Objectives:

- Set up the welder correctly for each welding process.
- Prepare qualification plates according to code standards.
- Weld qualification plates in various positions with Shielded Metal Arc Welding.
- Weld qualification plates in various positions with Gas Metal Arc Welding.
- Prepare test plates properly for face and root bends.

## Davis Technical College

### Electronic Fundamentals for Industrial Automation — 4 Credits/120 Clock-Hours

This course introduces students to the concepts and fundamentals of electronic devices, systems, and circuits. Students will learn the basics of DC/AC circuits; semiconductor and analog circuits; and microcomputers and learn how to use meters, oscilloscopes, and other measuring equipment. Students will also learn the skills required to make algebra calculations in an automation shop environment.

Objectives:

- Demonstrate knowledge of basic functionality of DC/AC circuits.
- Apply knowledge of basic components of semiconductor/analog circuits.
- Demonstrate knowledge of the basic purpose of digital gates, circuits, and systems.
- Use meters, oscilloscopes, and other measuring equipment.
- Perform US to metric conversions.
- Calculate surface and square measurements.
- Work with rational and real numbers.
- Add, Subtract, Multiply, and divide integers.
- Solve shop algebra calculation.

### Renewable Energy — 2 Credits/60 Clock-Hours

Students in this course will learn about alternative and sustainable energy sources. Students will conduct cost-benefit analysis on each form of alternative energy in order to determine what is practical on a large or small scale. Students will cover the efficiencies of each alternative energy source as well as what limitations exist in terms of extracting usable energy. Students will also learn how a fuel cell works and how they can power automobiles.

Objectives:

- Practice electrical safety and identify the effects electricity can have on the human body.
- Analyze energy production and consumption.
- Compare different energy sources.
- Describe how solar thermal energy sources operate.
- Explain solar and wind basics.
- Perform an analysis of incentives and costs.
- Explain fuel cell operation.
- Compare career opportunities.
- List non-renewable energy sources.
- Explain what resources are available through the National Renewable Energy Laboratory.
- Describe positive and negative ions.
- Describe how voltage, resistance, and current are related to each other.
- Read, draw, and identify electrical schematic systems.
- List the types of solar energy.
- Perform solar and wind installations.

### Lean Manufacturing (Six Sigma) — 1 Credits/30 Clock-Hours

In this course students will study lean manufacturing, ISO 9000 overview, manufacturing maintenance strategies, continuous process improvement, process design development, supply chain management,

total productive maintenance, Five S overview, cellular manufacturing, and intro to six sigma, troubleshooting processes, and kaizen events. This includes discussions of the seven forms of waste and describing the role of a Quality Management System. Students will demonstrate the implementation of maintenance management strategies including reactive, corrective, predictive, preventive, reliability-centered and total productive maintenance.

Objectives:

- Describe ISO 9000.
- Describe Process analysis and improvement for a Quality Management System
- Describe factors involved in selecting a maintenance approach.
- Distinguish between reactive, preventive, and predictive maintenance.
- Describe the impact of cost on the troubleshooting process.
- Differentiate between types of facility layouts.
- Explain the rules governing workplace safety.
- Identify the steps involved in 5S.
- Define root cause analysis.
- Distinguish between Six Sigma and lean initiatives.
- Identify the factors that determine cell design.
- Describe the importance of lean metrics.

**Plumbing for Automation Technology** **1 Credit/30 Clock-Hours**

Plumbing for Automation Technology explores how to design, install, and test plumbing systems in commercial settings. Topics covered include safety, tools and materials, common joints and plumbing systems.

Objectives:

- Identify safety issues and concerns with Industrial plumbing and commercial facilities.
- Create piping arrangements, and isometric drawings using symbols for fittings, flanges, valves, and mechanical equipment.
- Identify installation and layout techniques used in engineering.
- Size and install various types of pipes.
- Identify plumbing codes and specifications.

**HVAC Refrigeration** **3 Credits/90 Clock-Hours**

In the HVAC Refrigeration course, students learn HVAC-R plus components and the principles of heating and air conditioning. Basic refrigeration systems and applications will be introduced, and preparation for the EPA 608 certification for refrigerant gases will be completed.

Objectives:

- Demonstrate knowledge of HVAC safety practices and procedures.
- Measure head pressure in a tube
- Heat and cool a room using a standard heat pump-based HVAC system.
- Set up and properly adjust a furnace system.
- Apply systems diagnostics and troubleshooting of HVAC systems.

**UAV Drone Technology** **1 Credit/30 Clock-Hours**

Students in this course will learn cutting edge drone technology, function, assembly, programming, profitable and fun applications, and proper operation. Students will learn through hands-on practice of real-world applications of video, imaging, and mapping. Students will use propeller and fixed-winged simulators and drones to learn to properly operate drone technology. Students will learn to properly utilize FPV (First Person Video) with drones, ground control, connections, programming flight patterns, future of drones, and employment opportunities.

Objectives:

- Identify and apply drone technology and architecture.
- Demonstrate safety precautions and regulations for drone use.
- Build, program, and test a drone.
- Identify applications for drones.
- Apply peripheral sensors, equipment, and interfacing in software and hardware.
- Master skills to control and pilot drones.

**Semiconductor Devices** **4 Credits/120 Clock-Hours**

Semiconductor Devices explores diodes and transistor principles. Throughout this course, you will study semiconductor theory, bipolar, and field effect device characteristics as well as modern thyristor devices. You will also examine the use of diodes in communication circuits and power supply applications, bias transistor circuits, the use of small-signal, power and FET amplifiers and measurement of frequency response to an amplifier.

Objectives:

- Identify the different diodes and their applications.
- Test, install and troubleshoot diodes.
- Identify rectifiers and power supplies.
- Identify the different transistors and their applications.
- Test, install and troubleshoot transistors.
- Identify amplifiers, field effect transistors (FETs), operational amplifiers, and analog oscillators.
- Identify silicon-controlled rectifiers (SCRs), diacs and triacs.
- Draw a complete system, use simulation software, and then construct the circuit on the lab trainer.

**Building Control Panels** **3 Credits/90 Clock-Hours**

In the Building Control Panels course, students will learn about control panel assembly, standards, skills, and practice. Industrial Control Panel standards are utilized, and special panel building tools are taught.

Objectives:

- Demonstrate knowledge of common control panel safety practices and procedures.
- Create a plan for a panel build project including electrical conduit capacity calculations, enclosure size, wire number and size, component placement.
- Demonstrate ability to correctly read and mark wiring prints.
- Demonstrate proper component layout and organization.
- Modify panel enclosures.
- Demonstrate proper wiring standards in regards to size, type, and color.

- Layout, mount, and wire a complete Control Panel while implementing UL508A standards.

**Instrumentation Process Control** **3 Credits/90 Clock-Hours**

In the Instrumentation Process Control course students are introduced to the concepts and terminology of Instrumentation-Process Control using theory and a hands-on approach used in refineries, water treatment plants, boilers, HVAC, refrigeration systems, and many other temperature, pressure, level, flow, analysis, transmission and communication, and automatic control applications.

Objectives:

- Demonstrate knowledge of safety practices and procedures.
- Demonstrate the ability to set up multiple process control sensors.
- Demonstrate ability to manually and automatically adjust valves.
- Wire and actuate a valve positioner and solenoid valve.
- Setup common components such as control valves, regulators, dampers, actuators, positioners, solenoid valves, and variable frequency drives within a standard system.
- Calibrate and install temperature, pressure, level and flow instruments.
- Use troubleshooting instrumentation competently within multiple systems.

**Process Technology Equipment and System Operators** **3 Credits/90 Clock-Hours**

This course introduces students to the concepts and terminology of Process Technology Equipment and Systems using theory and a hands-on approach used in refineries, water treatment plants, boilers, and many other temperatures, pressure, level, flow, analysis, transmission and communication, and automatic control applications.

Objectives:

- Demonstrate knowledge of the basic functionality of process technology equipment.
- Apply knowledge of basic components of process technology equipment.
- Demonstrate knowledge of the basic purpose of process technology equipment.
- Use meters, and other measuring equipment associated with process technology.

**Microcontroller and Microprocessor Programming** **2 Credits/60 Clock-Hours**

This course is a series of presentations/study in number systems and codes, microprocessor/microcontroller architecture, computer arithmetic, machine and assembler language programming, and microprocessor interfacing. Emphasis is placed on laboratory experiments dealing with machine/assembler language program execution and interfacing using an Arduino starter kit.

Objectives:

- Write assembly code programs.
- Apply peripheral interfacing in software and hardware.
- Utilize interrupt control and software polling.
- Use software development tools.

**Electronics Assembly and Soldering** **2 Credits/60 Clock-Hours**

Electronics Assembly and Soldering offers you an opportunity to develop the ability to solder and desolder connectors, components, and printed circuit boards using industry standards. You will be

introduced to topics including component identification, safety practices, soldering, desoldering, anti-static grounding, and surface mount techniques.

Objectives:

- Identify and place components according to a schematic.
- Demonstrate industry safety practices.
- Use standard anti-static grounding.
- Demonstrate through-hole soldering techniques.
- Demonstrate surface mount soldering techniques.

**Aerospace Technician** **2 Credits/60 Clock-Hours**

In this course, students will identify and apply AF requirements of safety, lockout/tagout procedures, basic shop measurement tools, basic blueprint reading, Container Labeling, SDS procedures, and foreign objects damage and prevention for aircraft and aerospace equipment. Students will apply technical data, regulatory standards, theory, and lockout/tagout procedures. This course trains personnel, to include contractors, who perform direct or indirect maintenance actions/operations on aircraft, missiles, support equipment, components, or active taxiways/runways. Personnel such as security forces, fire department, medical and supply organization workers who may travel through aircraft, missile, support equipment, or component repair work centers, to include driving on active taxiways/runways, must also receive this training.
This course will also cover technical data and regulatory standards, theory, types, identification and inspection techniques, prone areas, reporting and documenting procedures, preventative compounds, removal and surface treatment.
This course will explore a list of essential packaging and production controls, review of guidelines describing the proper way to execute GMP records, examine the GMP personal hygiene requirements, clarify the four key product quality attributes, describe the purpose of GMP codes and regulations, and offer explanations of why companies implement GMP.

Objectives:

- Identify proper Occupational Safety and Health Administration's (OSHA) right-to-know standards.
- Classify Safety Data Sheet (SDS) labels, including color, sections, and symbols according to the Globally Harmonized System.
- Identify possible safety hazards in the work environment.
- Demonstrate basic first-aid procedures Identify proper emergency evacuation practices.
- Identify proper OSHA lockout/tag out standards and devices.
- Demonstrate Global Harmonized System Container Labeling Procedures.
- Demonstrate proper use of basic shop precision measuring instruments.
- Demonstrate basic shop blueprint reading.
- Identify Initial foreign object damage awareness.
- Discuss and identify toxic metal awareness Identify good manufacturing practices.
- Track data of product and provide continuous improvements in manufacturing.
- Utilize quality control in manufacturing environment.

**Automation Externship** **2 Credits/90 Clock-Hours**

Students participating in this course have the opportunity to gain valuable work experience in the Automation and Robotics industry while working under the supervision of a plant manager or

maintenance technician. This experience will allow the student to observe and get hands-on experience troubleshooting and repairing equipment.

Objectives:

- Demonstrate competency of skills learned in the classroom and lab in a workplace setting.
- Successfully complete required externship hours in an automation and robotics workplace setting.

**Interpreting Engineering Drawings** **1 Credit/30 Clock-Hours**

Students in this course will learn basic blueprint reading skills. Standard industrial practices will be applied to one or more industrial drawings. The following principles and applications will be used: line types, orthographic projection, dimensioning, sectioning, multi-views, and auxiliary views.

Objectives:

- Identify line, lettering, sketching, and title standards used in drafting.
- Identify symbols used on blueprints.
- Calculate missing dimensions on a drawing.
- Identify information necessary for item/part fabrication on a drawing.
- Define terminology and processes related to manufacturing drawings.
- Describe the function of drawings used in manufacturing.

**Introduction to Machining** **2 Credits/60 Clock-Hours**

Machining Introduction defines basic procedures and machining operations encountered in the machine shop. In this course, you will practice machine shop safety, recognize Safety Data Sheets (SDS), use basic measuring tools, recall shop math, select proper speeds and feeds, label common metal identifications, and reproduce basic layout techniques. In this course, you will have the opportunity to operate bench grinders, saws, and drill presses. The course will also introduce lathe and mill set-up and operation.

Objectives:

- Interpret Material Safety Data Sheets (MSDS) and identify safe practices and clean up procedures in a machine shop.
- Demonstrate accurate use and reading of steel rules, micrometers, and calipers.
- Perform basic layout procedures.
- Demonstrate safe setup, operation, and changing of saw blades for both vertical and horizontal band saws.
- Identify common metals used in a machine shop.
- Demonstrate the use of files, deburring tools, hand tools, and work holding devices.
- Demonstrate safe operation of a bench grinder.
- Demonstrate proper feeds and speeds.
- Perform basic hole making.
- Perform basic turning and milling operations.

**Job Seeking Skills** **1 Credit/30 Clock-Hours**

Job Seeking Skills explores how to prepare and successfully apply to potential career opportunities. During this course, you will be presented with essential job-seeking skills needed to find gainful employment.

Objectives:

- Create a professional resume, cover letter and reference sheet.
- Utilize online tools successfully to create an e-portfolio.
- Expand and develop networking skills.
- Utilize online resources effectively to find job openings.
- Demonstrate the ability to fill out job applications in a professional manner.
- Perform successfully in a job interview.
- Demonstrate appropriate follow-up procedures.

**Welding for Manufacturing** **2 Credits/60 Clock-Hours**

Welding for Manufacturing includes the basic knowledge of Gas Metal Arc Welding (GMAW) and Shielded Metal Arc Welding (SMAW). During this course, you will study welding safety, protection, accident prevention, and troubleshooting. You will practice set-up, operation of equipment, positions, executions, and the workmanship needed for a basic weld.

Objectives:

- Describe oxy fuel cutting process terms.
- Demonstrate proper equipment setup, usage, cleaning, and break-down.
- Discuss and conduct safety inspections of equipment and accessories.
- List and describe oxy fuel cutting equipment.
- Perform setup, lighting, and use of oxy fuel cutting equipment.
- Demonstrate various cutting techniques including straight cuts, beveling, and gouging on various base metals.
- Name key terms for GMAW.
- Make GMAW-S (Short Circuit) Fillet Welds the 2F position.
- Make GMAW-S (Short Circuit) Groove Welds in the 2G position.
- Make GMAW-S (Short Circuit) V Groove Welds in the 2G position.
- List key terms for SMAW.
- Perform Fillet welds on mild carbon steel with E7018 welding.
- Perform Groove welds in the Flat (1G) and horizontal (2G) with 7018.

**Electric Motor Drives** **3 Credits/90 Clock-Hours**

This class covers identification of the operating characteristics and nameplate information of most types of AC/DC motors. This course will introduce students to Electric Motor drives, including the installation and programing of an electric motor drive for motor speed control, including ramp up and ramp down parameters. In addition, students will learn how three-phase alternating current (AC) is generated in Delta or Wye circuits. Students will gain knowledge about the distribution of electrical power in a manufacturing facility, including service feeders, branch circuits, and control circuits.

Objectives:

- Identify the operating characteristics, nameplate information and troubleshooting procedures for:
  - Single-phase motors and generators.
  - AC/DC motors, control transformers, and distribution systems.
  - Delta and Wye transformer configurations.
  - Three-phase motors – Delta or Wye connected, 9 or 12 lead motors.

- Install and Troubleshoot Electric Motors and Drives.

**FANUC IR Vision Systems** **1 Credit/30 Clock-Hours**

FANUC IR Vision Systems covers basic tasks and procedures required for an operator, technician, engineer or programmer to set up, teach, test, and modify FANUC IR Vision Applications.

Objectives:

- View and/or change robot computer parameters to facilitate access to robots' web browser.
- Set up a camera and perform an inspection vision process.
- Master a robot using vision mastering.
- Create user frames necessary for use with vision systems.
- Calibrate a camera and program a FANUC robot to respond to vision results.

**Vision System Basics** **1 Credit/30 Clock-Hours**

Vision System Basics covers the Cognex In-Sight Explorer software and hardware needed to set up a machine vision project. Students will explore the basics of Cognex vision systems and how to set up basic programs, including hardware and accessories, connecting a camera, image acquisition, and digital imagery theory.

Objectives:

- Utilize Cognex vision system hardware and software.
- Create inspection programs using Cognex In-Sight Explorer software.
- Discuss digital imagery theory.

**Human Machine Interface Programming** **3 Credits/90 Clock-Hours**

Students in this course are introduced to programming an operator panel using graphics and Programmable Logic Controllers (PLCs). Students will learn to convert a PLC program into a graphic Human Machine Interface Panel using GE, Siemens, Opto 22, Modicon, Schneider Electric, Crimson (Red Lion), and Allen Bradley software.

Objectives:

- Identify and discuss the basics of HMI programming.
- Identify different types and programming techniques of HMI programming.
- Discuss the need for HMI programming.
- Install and program an HMI screen.
- Demonstrate operation of multiple HMI screens with GE, Siemens, Opto 22, Modicon, Red Lion and Allen Bradley.

**Programmable Logic Controllers II** **3 Credits/90 Clock-Hours**

During this course, students are introduced to advanced programming techniques of Programmable Logic Controllers. This course includes advanced topics of Programmable Logic Controllers not covered in the introductory course such as, process control, data acquisition, computer-controlled processes, variable speed drives, and networking. It may cover various software packages not included in the introductory class such as Allen Bradley 5000 series programming with hands-on labs and other advanced topics as needed to meet employer needs.

Objectives:

- Identify and discuss the basics of HMI programming.
- Identify Programmable Automation Controller principles and practices.
- Apply advanced topics of Programmable Logic Controllers in a lab setting.
- Learn advanced hardware and software principles as they apply to Programmable Logic Controllers.
- Demonstrate programming of advanced Programmable Logic Controllers on RSLogix 5000 software package to meet employer needs.

**Industrial Robotics** **3 Credits/90 Clock-Hours**

In this course, students will learn basic sensing and locomotion principles as they build and control a robotic arm. Students will learn about the different types of robots that are available for industrial and servicing applications program a robotic arm that will be used for selected activities from manual robot control to computer program mode. Students will determine how much current is required to lift different weights, how to measure the degrees of freedom, calculate maximum reach, and use the control panels.

Objectives:

- Determine the working specifications of a robot arm manipulator.
- Compare the robotic trainer to the human hand.
- Measure the degrees of freedom.
- Determine max vertical and horizontal reach.
- Utilize control panels.
- Identify what types of robots are available for Industrial and servicing applications.

**Industrial Networking** **3 Credits/90 Clock-Hours**

Industrial Networking includes a fundamental introduction to computer networking for industrial automation professionals seeking a practical understanding of the use and simple troubleshooting of common Local Area Networks (LANs), Wide Area Networks (WANs), and wireless networks. During this course, you will examine basic professional IT terminology, computer and networking hardware basics, serial communication, and computer networks protocols. You will also explore and evaluate common LAN/WAN devices such as switches, routers, and wireless access points.

Objectives:

- Identify and work with Wide Area Networks (WANs).
- Identify and work with Local Area Networks (LANs).
- Identify and work with Industrial Network Technologies (SCADA, Ethernet/IP, Fieldbus, Profinet, Allen Bradley Data Highway & DH+).
- Configure and set up multiple Industrial Networks using PLC's, HMI's, Industrial Robots, and VFD's.

**Controls Integration** **3 Credits/90 Clock-Hours**

This course brings together the content of many preceding courses and applies that content to the requirements of systems integration. The problems associated with interconnection and interworking of different components will be explored, and typical solutions will be illustrated using conveyors, manufacturing tools, and robotic devices. The course is largely a hands-on experience in an automated manufacturing environment.

Objectives:

- Build Automation Industrial equipment per the application.
- Learn mechanics of installing sensors and actuators in machine.
- Simulating your system with PLC Logics.
- Testing and analyzing feasibility of the project.
- Build and integrate automated equipment.

**Final Project** **1 Credit/30 Clock-Hours**

This course challenges students to complete a machine build project including design, layout, construction, operation, and debugging while meeting the given specifications and time limitations. Students will develop schematics for all aspects of the machine and develop and submit required parts.

Objectives:

- Develop schematics for all aspects of the machine.
- Develop and submit a required parts list to the instructor.
- Develop, meet, and complete a project action plan.
- Operate and debug the machine to proper operating specifications.

**Mountainland Technical College**

**Electronics Soldering** **1 Credit/30 Clock-Hours**

This soldering course will teach the students a basic skill level of soldering for both surface mount and through-hole technologies. They will also learn basic electrical components using hands-on skills.

Objectives:

- Solder various terminals.
- Install surface mounting components.
- Identify components.

**Robotics I** **1 Credit/30 Clock-Hours**

Robotics 1 will instruct students in robotics safety, economics impacts, hardware, design and coding. They will also design a robot and program to perform a task. Students will discover the fields and career opportunities in robotics.

Objectives:

- Practice Safety procedures.
- Operate robotic applications.
- Identify robotic components.
- Identify basic electrical operations.
- Program robot to perform a task.

**Conduit Bending** **1 Credit/30 Clock-Hours**

Students will learn the use of conduit in industry. They will learn how to make measurements and various bends without defects. Students will also learn the different types of conduit and various parts used in industry.

Objectives:

- Bend conduit to industry standards.
- Identify types of conduit.
- Perform various bends.
- Read schematic drawings.

**Introduction to RF Plasma** **1 Credit/30 Clock-Hours**

This course is an introduction to plasma and radio frequency (Rf) concepts for students interested in semiconductor careers as well as those who wish to gain an overview of basic plasma theory. Semiconductor focused students will gain basic knowledge to aid in understanding plasma generation and hazard identification. Course material includes plasma definition, properties, ionization, and generation. Rf material includes basic definition, loss and gain, skin effect, reflection, transmission, inductive coupling, filtering, and leakage.

Objectives:

- Define plasma and identify properties.
- Explain plasma generation.
- Explain radio frequency (RF) concepts as they apply to plasma.
- Define frequency, impedance, power loss.
- Identify hazards possible with use of RF plasma.
- Define Optical Emission Spectroscopy (OES) and explain how it is used to monitor the plasma.

**Introduction to Statistical Process Control** **1 Credit/30 Clock-Hours**

Statistical Process Control is an introduction to statistical process control (SPC) for students interested in semiconductor careers, as well as those who wish to gain an overview of basic SPC practices. Semiconductor focused students will gain basic knowledge to maintain control of critical manufacturing processes. Course material includes overview and benefit, common cause vs. special cause variation, distributions and histograms, basic statistics, process capability, standard deviation, sigma, and control chart basics.

Objectives:

- Define and use basic statistics such as mean, median, standard deviation, normal (bell curve) vs. skewed distributions.
- Identify difference between control and spec limits.
- Process capability.

**Introduction to Semiconductor Manufacturing** **2 Credits/60 Clock-Hours**

Introduction to Semiconductor Manufacturing is a course for students interested in semiconductor careers, as well as those who wish to gain an overview of basic semiconductor processing. Semiconductor focused students will gain basic knowledge of overall process flow and logic gate device functionality. Course material includes definition of a semiconductor, n-type and p-type doping, geometries and units of measure, basic semiconductor manufacturing, process module overviews, clean room overview and protocols, and automated material handling system (AMHS) overview.

Objectives:

- Identify semiconductor basics.
- Define N-type, P-type doping, PN junction.

- Identify MOSFET/CMOS structure and logic gate function.

**Sensors and Timers** **1 Credit/30 Clock-Hours**

Students will identify the use and purpose of inductive, capacitive, and photoelectric sensors. They will learn how to design and read schematics, and to troubleshoot designs using troubleshooting methods.

Objectives:

- Connect and operate inductive sensors.
- Connect and operate capacitive sensors.
- Connect and operate photo electric sensors.

**Wiring Board** **1 Credit/30 Clock-Hours**

Students will identify the design and wiring of industry standard control panels. They will use wiring organization to make a clean and professional control panel, using the various tools designed for this application.

Objectives:

- Troubleshoot and design circuits.
- Access and use wiring code.
- Connect and operate low voltage/high voltage.
- Use crimps, strippers, wire pullers, and various connections.

**Rotating Machines** **2 Credits/60 Clock-Hours**

Students will learn the different types of motors that are used in industry and also the reasons why certain motors are used for different conditions. They will also learn how they are wired internally and externally. Students will also perform different measurements and do calculations to see how the motors perform under different loads.

Objectives:

- Connect and operate different industrial motors.
- Measure and calculate speed/torque.
- Calculate efficiency and power consumption.
- Graphing motors performance.

**HMI & PLC Troubleshooting** **3 Credits/90 Clock-Hours**

Students will use and design basic Human-Machine Interface (HMI) programs, using Allen Bradly's "FactoryTalk". They will learn how to make the connections between the Programmable Logic Controllers (PLC) and HMI programs. They will also learn to navigate and use alarms. Students will read and troubleshoot PLC circuits, using basic troubleshooting techniques. They will use symptoms to diagnose troubles. They will also learn how to use multimeters to verify the working contrition of different components.

Objectives:

- Identify Factory Talk components.
- Configure communications.
- Create different control navigations.
- Create messages, alarms, and configure diagnostics.

- Identify PLC status indicators.
- Test and troubleshoot discrete input/outputs.
- Troubleshoot PLC faults.
- Test and troubleshoot Analog inputs/outputs.

**FANUC Robot** **1 Credit/30 Clock-Hours**

Students will operate and design basic programs for Fanuc robots. This will get them the basics that are needed to become a Fanuc robot operator and teach them how to operate a robot safely.

Objectives:

- Identify Factory Talk components.
- Configure communications.
- Create different control navigations.
- Create messages, alarms, and configure diagnostics.
- Identify PLC status indicators.
- Test and troubleshoot discrete input/outputs.
- Troubleshoot PLC faults.
- Test and troubleshoot Analog inputs/outputs.

**Electro-Fluid Power** **1 Credits/30 Clock-Hours**

Students will combine electrical controls with hydraulic and pneumatic circuits. They will read, design, and troubleshoot circuits that are using a wide range of devices used in industry.

Objectives:

- Read electric, hydraulic, and pneumatic schematics.
- Connect and operate a variety of industrial relay control systems.
- Design combination circuits.
- Troubleshoot circuits.

**Welding Simulator** **1 Credits/30 Clock-Hours**

Students will gain an understanding of the history of welding. As they study the basics of welding, they will learn to safely operate a welder, using the correct settings. They will focus on the correct techniques for Metal Inert Gas (MIG) welding.

Objectives:

- Identify important historical facts about welding.
- Identify safety protocols.
- Operate a welder using correct settings for various types of metal.
- Weld using correct techniques.

**SolidWorks** **1 Credits/30 Clock-Hours**

SolidWorks is a solid modeling, computer-aided design (CAD) software that is used widely in industry for 3d design. Students will use SolidWorks to design parts and assemble multiple parts into one object. They will also learn how to turn their designs into a drawing.

Objectives:

- Identify components of SolidWorks and navigate software.

- Design parts and assemblies.
- Turn designs into drawings.

**Lean and Six Sigma** **1 Credits/30 Clock-Hours**

Six Sigma is a team-focused managerial approach that seeks to improve performance by eliminating resource waste and defects. In this course, students will learn Six Sigma methods and tools, combined with the Lean Manufacturing philosophy, which strives to eliminate the waste of physical resources, time, effort, and talent while assuring quality in production and organizational processes.

Objectives:

- Identify resource uses that don't create value for the end customer.
- Determine how to eliminate wasted resources or process/product defects.
- Identify non-value-adding activities to remove from production processes.

**Basic VFD Operation** **1 Credits/30 Clock-Hours**

In this course students will learn how to wire a Variable Frequency Drive (VFD) for basic operation. They will also learn how to set the VFD's settings, using both 1 phase and 3 phase applications.

Objectives:

- Identify VFD specs and correct application.
- Wire VFD for single and 3 phase applications.
- Set VFD settings.

**Mechanical Drives and Laser Alignment** **2 Credits/60 Clock-Hours**

This course is a continuation of the industrial mechanics course where students will learn more advanced bearings, gaskets, seals, gear drives, and laser alignments. Students will demonstrate their working knowledge and ability to perform troubleshooting, along with demonstrating attention to safety practices.

Objectives:

- Demonstrate a working knowledge of safety practices and procedures.
- Perform plain bearing selection, maintenance, and troubleshooting.
- Identify roller bearings for specific applications.
- Perform seal maintenance and selection.
- Perform gear lubrication, maintenance, and troubleshooting.
- Operate laser shaft alignment systems.

**Ogden-Weber Technical College**

**Advanced Electrical Systems** **3 Credits/90 Clock-Hours**

The Advanced Electrical Systems course discusses advanced principles of 3-phase AC systems. Using theoretical and measured values, calculations of values in resistive, inductive, and capacitive circuits are performed. This course demonstrates cause and effect using control transformers, capacitors, and resistive loads in a control circuit.

Objectives:

- Demonstrate wiring of a 3-phase AC circuit using control transformers.
- Demonstrate the use of a DMM to measure current and voltage in complex circuits.

- Demonstrate calculations of capacitance, reactance, and impedance.
- Apply measured values to calculate farad and henry in a circuit.

**Advanced Motor Controls** **3 Credits/90 Clock-Hours**

The Advanced Motor Controls course covers electrical wiring skills like installing control wiring in an electrical panel; installing wiring into limit switches, solenoids, and pressure switches; wiring 3-phase motors, and understanding the importance of correct wire size, material, and insulation.

Objectives:

- Demonstrate electrical control wiring using electrical prints.
- Apply wire management skills based on conductor size, color coding, numbering, and bundling.
- Demonstrate proper termination of motor contacts, overloads, control relays, and disconnects.
- Demonstrate wiring of pneumatics controls circuits and electro-pneumatic valves.
- Demonstrate wiring and communication of VFDs, PLCs, and HMIs.

**Industrial Robotics** **3 Credits/90 Clock-Hours**

The Industrial Robotics course introduces the necessary entry-level robotics technician skills for Fanuc and collaborative robots. The course covers robot anatomy, motion control, safety, tool operations, setup and programming, motion instructions, and working frames. Branching, macros, program creation and editing, input/output signaling, and robot systems are identified along with safe working habits in an industrial setting.

Objectives:

- Demonstrate proper robot safety.
- Describe the anatomy, motion control, safety, and tool operations of robot systems.
- Describe teach pendant.
- Setup robot working frames and motion instructions.
- Create and edit programs.
- Explain branching and macros.
- Define input/output signaling.

**Salt Lake Community College**
Advanced Programmable Logic Controllers (PLC) Track:

**Programmable Logic Controllers II** **4 Credits/120 Clock-Hours**

This course covers the usage of industry PLC hardware and software, such as Allen Bradley, covering the programming, setup and connection, operation, editing, for PLC motor control and other applications. This course will also cover programming using ladder logic, PLC instruction set, PLC Timers, Counter, Math, Program Control Instructions, Analog/Digital inputs and outputs.

Objectives:

- Create a PLC program using industry software such as Allen Bradley Studio 5000 software.
- Identify and explain the functions, and advantages of a programmable controller and its components.
- Identify industrial networks used for data communications and explain their function and operation. and type of network sed for data communications

- Connect and configure PLC controllers for communications using PLC software.
- Use PLC programming software to open and download a program and monitor the status of a controller.
- Identify and explain PLC programming languages, program operation, and PLC memory organization.
- Explain the elements of project creation and organization, programming software, program analysis, and program documentation.
- Identify PLC motor control basics, seal-in program logic, data types and user-defined tags, interlock functions, and PLC discrete control of variable speed drives.
- Explain instructions for PLC timers and counters, non-retentive/retentive timers, time-driven sequencing, and counters.
- Demonstrate the use of event sequencing and continuous cycle logic, modes of operation, stop functions, and on/off process controls.
- Appropriately follow program control instructions, master control reset, subroutines, and jump and label instructions.
- Utilize math and data move instructions.
- Effectively use analog inputs and outputs, configuration, operation, scaling functions, comparison instructions and on/off control.
- Demonstrate the use of variable output applications, PWM temperature control, stepper motors, and absolute and relative modes.

**HMI Programming** **2 Credits/60 Clock-Hours**

This course covers HMI panels, covering the programming, setup and connection, operation, editing, for basic terminal operation/human machine interface (HMI). The course will use and introduce industry hardware and software.

Objectives:

- Operate an HMI Panel Terminal, configure the IP Address, transfer an application using industry software.
- Use HMI application software to edit and create application displays and input and output objects.
- Explore HMI application editing, to include numeric input/output, displays, local messages, alarms, diagnostic messages, and information messages.
- Create a PLC program to support HMI applications.

**PLC Troubleshooting** **2 Credits/60 Clock-Hours**

This course covers the Allen Bradley Compact Logix, PLC troubleshooting, identifying types of PLC faults, use of PLC diagnostics indicators, troubleshooting PLC power supplies, how to test and troubleshoot discrete input/out devices.

Objectives:

- Demonstrate PLC troubleshooting skills and techniques.
- Utilize PLC's status and diagnostic Indicators to determine the status of PLC operation.
- Demonstrate ability to troubleshoot a PLC power distribution system.
- Test discrete input/output devices.
- Use the force function to test a PLC discrete output device.
- Troubleshoot an industry PLC for faults.

- Use a six-step sequence to troubleshoot a PLC system.
- Troubleshoot a continuous cycle reciprocating motor PLC project.
- Troubleshoot a PLC-controlled machine with manual and automatic modes.
- Use the application diagnostics tools to find and replace an instruction.
- Analyze, test, and troubleshoot analog input/outputs.
- Analyze, test, and troubleshoot PWM applications.
- Analyze, test, and troubleshoot variable speed drives PLC applications.
- Analyze, test, and troubleshoot stepper motors PLC applications.

**PLC Capstone Project** **1 Credit/30 Clock-Hours**

This course covers the usage of industry PLC and HMI hardware, as well as software. The capstone will be an industry application project, on the same level as the course lab projects. The course will require the design of a basic PLC project, the setup/wiring of all required PLC hardware and the programming. Documentation and final demonstration of the project will be required.

Objectives:

- Identify correct hardware to support the project.
- Setup and wire power supplies to support the PLC and HMI panel.
- Setup and wire all required input and output devices.
- Create a PLC program using industry software such as Allen Bradley Studio 5000 software.
- Create an HMI program using industry software such as Allen Bradley FactoryTalk View Studio – ME edition.
- Troubleshoot a PLC/HMI system.
- Operate and demonstrate a functioning PLC/HMI industry application system.
- Submit all required project documentation.

Process Control Level/Flow Track:

**Process Control Level/Flow** **4 Credits/120 Clock-Hours**

This course covers the most common types of process control systems, flow and liquid level. To include process control safety, instrument tags, piping and instrumentation diagrams, troubleshooting and level measurement. System control functions such as liquid level control, automatic control methods, basic flow measurement and control, and control loop performance using industry instrumentation.

Objectives:

- Identify definitions related to process control, safety, the elements of a process control system, and the general requirements of a control system.
- Explain instrument tags, block diagrams, piping and Instrumentation diagrams.
- Demonstrate the use of loop controllers, parameters, and manual operation.
- Use final control operation, I/P operation, and proportional control valves.
- Implement level measurement, level sensor operation, signal measurement, and display scaling.
- Troubleshoot process control systems.
- Utilize liquid level control.
- Implement methods of automatic control.
- Use basic flow measurement and control devices.
- Identify effective control loop performance.

- Use ultrasonic level measurement and control devices.
- Use differential pressure flow measurement and control devices.

**Process Capstone Project** **2 Credits/60 Clock-Hours**

This course will require the identification and use of required hardware to build and setup a functional industry system for flow and level control of fluid such as water. The system must meet the stated criteria for flow/level measurement and control. The system will consist of reservoir tanks and industrial control instrumentation such as PID Controllers, Flow Transmitters, and level sensors.

Objectives:

- Setup, connect and program a basic process automatic level/flow control system.
- Calibrate and use an industrial flow transmitter.
- Setup and use level sensors.
- Use PID controllers for flow and level.
- Operate and demonstrate functioning process flow/level automatic control system.
- Submit all required project documentation.

**Troubleshooting Automated Systems** **3 Credits/90 Clock-Hours**

This course will cover the procedures and techniques for troubleshooting electrical, motor, and control circuits. To include safety, testing and fault determination and component replacement. Efficiency for making a repair will be covered and tracked for time and cost of repair.

Objectives:

- Troubleshoot and repair electrical relay circuits.
- Troubleshoot and repair motor circuits.
- Troubleshoot and repair control circuits.
- Follow safety procedures to avoid injury.
- Troubleshoot and repair common industrial circuits in a timely and efficient manner.

Motor Control Systems Track:

**Electric Motor Control Systems** **4 Credits/120 Clock-Hours**

This course teaches control of three-phase AC electric motors found in industrial applications, starting, reversing, jogging, and motor principles. Coverage of motor selection, diagrams, motor control devices, operation, installation, and troubleshooting. This course includes motor starter circuits, contactors, reduced voltage starting techniques, relays, braking, and variable frequency AC drives.

Objectives:

- Explain requirements for electrical safety in the workplace, protection against electric shock, grounding, and lockout procedures.
- Interpret electrical drawings including various symbols, abbreviations, ladder diagrams, wiring-single line- block diagrams, motor terminal connections, motor nameplate, and terminology.
- Identify motor transformers and distribution systems, power distribution systems, transformer principles, and transformer connections.
- Use various motor control devices including manually operated switches, mechanically operated switches, sensors, and actuators.

- Explain the use and operation of electric motors including motor principles, direct current motors, three-phase alternating current motors, single-phase alternating current motors, alternating current motor drives, motor selection, motor installation, motor maintenance and troubleshooting.
- Connect and operate various contactors and motor starters including magnetic contactors, considering contactor ratings, enclosures, and solid-state types.
- Install various types of relays including electromechanical control relays, solid-state relays, timing relays, latching relays, and relay control logic.
- Connect and operate motor control circuits including motor starting, motor reversing, jogging, motor stopping, and motor speed control devices.
- Follow industry guidelines such as National Electrical Code (NEC) for motor installation.
- Define motor torque and horsepower.
- Explain the operation of variable frequency AC drives and applications in industrial processes.
- Test a control transformer.
- Connect and operate a basic electric control circuit using common Input/output devices.
- Connect and operate basic timer control circuits.
- Troubleshoot motor control systems.

**Motor Capstone Project** **2 Credits/60 Clock-Hours**

This course will require application of concepts learned in the motor course, to include the build and setup of all required hardware for a AC and DC motor control system. Requirements to include performance operation demonstration, safety, seal-in circuits, and forward and reverse operation. The system should comply with industry codes and best practices such as National Electrical Code (NEC).

Objectives:

- Properly setup, wire and operate an AC motor control system.
- Properly setup, wire and operate a DC motor control system.
- Demonstrate correct usage of required hardware/devices.
- Demonstrate wiring techniques to align with NEC.
- Properly setup and wire devices such as switches and lights.
- Submit all required project documentation.

**Troubleshooting Automated Systems** **3 Credits/90 Clock-Hours**

This course will cover the procedures and techniques for troubleshooting electrical, motor, and control circuits. To include safety, testing and fault determination and component replacement. Efficiency for making a repair will be covered and tracked for time and cost of repair.

Objectives:

- Troubleshoot and repair electrical relay circuits.
- Troubleshoot and repair motor circuits.
- Troubleshoot and repair control circuits.
- Follow safety procedures to avoid injury.
- Troubleshoot and repair common industrial circuits in a timely and efficient manner.

## Snow College

### Industrial Mechanics II — 2 Credits/60 Clock-Hours

The Industrial Mechanics II course teaches linear axis drives, clutches, brakes, piping, fittings, and valves. Students will learn relevant industrial skills including identifying, sizing, selecting, installation, operation, performing analysis, design, troubleshooting and maintenance.

Objectives:

- Select, install, troubleshoot, and maintain the following equipment:
  - precision ball screws.
  - linear ball bearings.
  - linear axis slides.
  - matched angular contract bearings.
  - cam clutches.
  - friction clutches.
  - electric brakes.
  - flywheels.
- Reference and interpret manufacturer's specification data.

### Programmable Logic Controllers Troubleshooting — 2 Credits/60 Clock-Hours

The Programmable Logic Controllers Troubleshooting course teaches industry-relevant skills including how to operate, interface, program, and troubleshoot PLC systems for a variety of applications. Students will work with Allen Bradley, RSLogix 5000, and RSLinx, and HMI applications.

Objectives:

- Demonstrate PLC programming, operation, and troubleshooting.
- Explain PLC interfacing.
- Demonstrate PLC program editing.
- Use discrete input/output (I/O).
- Use counters/timer in PLC operation.
- Use BCD/LED in PLC operation.
- Develop program control instructions.

### Laser Shaft Alignment — 2 Credits/60 Clock-Hours

The Laser Shaft Alignment course teaches how to set up, operate and apply laser shaft alignment to a variety of industrial applications. Topics include laser alignment systems, rough alignment, soft foot correction, alignment analysis and operation.

Objectives:

- Install and troubleshoot laser shaft alignment systems including, rough alignment and soft foot correction.

### Vibration Analysis — 2 Credits/60 Clock-Hours

The Vibration Analysis course teaches the bearings and gears used in heavy duty mechanical transmission systems. This course will emphasize linear axis drives, clutches, and brakes. In addition, this course teaches how to setup, operate, and apply laser shaft alignment to a variety of industrial applications. Topics include heavy-duty v-belt drives, v-belt selection and maintenance, synchronous belt

drives, lubrication concepts, precision shaft alignment, couplings, and heavy-duty chain drives. Students will also learn the basics of vibration analysis used to determine when to perform maintenance of power transmission components.

Objectives:

- Take vibration measurements such as, velocity, acceleration, and spike energy and use these data in conjunction with trend analysis and severity charts to determine problems and their root causes.
- Operate and analyze laser shaft alignment systems including rough alignment, installation, and soft foot correction.
- Use a vibration meter to take a vibration reading, measure shaft misalignment vibration and shaft load imbalance vibration, measure belt drive vibration, interpret a vibration reading, and identify natural frequency.

**Industrial Rigging** **2 Credits/60 Clock-Hours**

This course teaches a comprehensive set of industry-relevant skills including how to safely move loads of different shapes and sizes using a variety of methods. Students will learn skills including hoist operation, installation, maintenance, equipment movement, wire mesh slings, synthetic slings, knots, load turning and cranes.

Objectives:

- Identify appropriate rigging systems.
- Select and maintain the following sling types:
  - Wire rope slings
  - Wire mesh slings
  - Chain slings
  - Synthetic Mesh Slings
  - Fiber and Synthetic Rope Slings
- Install, operate, and maintain:
  - block and tackle hoists.
  - endless chain hoists.
  - electric hoists.
  - ratchet hoists.
- Describe spreader beams.
- Calculate sling efficiency.
- Identify, select, and install eyebolts.
- Identify, select, and install hooks.
- Explain load balance.
- Calculate load weight.
- Discuss rigging safety.
- Tie various rigging knots.
- Explain load turning and equipment movement.
- Demonstrate the use of protection pads, pry bars and pry trucks, hydraulic jacks, dollies, and roller bars.
- Demonstrate the use of various types of cranes.

**Industrial Hydraulics Troubleshooting** **3 Credits/90 Clock-Hours**

The Industrial Hydraulics Troubleshooting course introduces industry-relevant hydraulic skills while showing the fundamentals of the hydraulic principles, hydraulic motors, and hydraulic formulas such as calculating theoretical pump flow rate. Students learning skills will include safety, operation, installation, troubleshooting, analysis of performance, and design hydraulic systems. Students will also be skilled in more advanced hydraulics.

Objectives:

- Identify basic hydraulic circuit components and explain their operation.
- Apply principles of Hydraulic Pressure and Flow in the development of hydraulic circuits.
- Complete circuits according to hydraulic schematics.
- Implement hydraulic speed and pressure control devices in circuits.
- Design and maintain hydraulic systems.
- Troubleshoot and repair damaged or faulty hydraulic systems.

**Industrial Pumps** **3 Credits/90 Clock-Hours**

The Industrial Pumps course teaches a comprehensive set of industry-relevant skills including how to operate, install, maintain, troubleshoot, analyze performance, and select centrifugal pumps as well as system design.

Objectives:

- Describe centrifugal pump system operation and characteristics.
- Explain centrifugal pump performance, efficiency, and importance.
- Properly size and select pumps to meet the needs of given scenarios.
- Install and align pumps.
- Describe how to inspect and troubleshoot a centrifugal pump.
- Disassemble and inspect a centrifugal pump with a mechanical seal.

**Southwest Technical College**

**Programmable Logic Controllers II** **3 Credits/90 Clock-Hours**

In this course, students are introduced to advanced programming techniques of Programmable Logic Controllers such as process control, data acquisition, computer-controlled processes, variable speed drives, and networking. Topics include various software packages not included in the introductory course with hands-on labs and other advanced topics as needed to meet employer needs.

Objectives:

- Identify and describe the basics of HMI programming.
- Identify and apply Programmable Automation Controller principles and practices.
- Apply advanced topics of Programmable Logic Controllers in a lab setting.
- Explain advanced hardware and software principles as they apply to Programmable Logic Controllers.
- Program advanced Programmable Logic Controllers on various software packages to meet employer needs.

**Fabrication and Repair** **3 Credits/90 Clock-Hours**

In this course, students are introduced to proper fabrication and repair techniques of different types of metal, plastic, and other materials, using a variety of machine tools. Topics will also include technical drawings, tolerances, manufacturing fundamentals, tooling selections, and precision measurement practices. Throughout this course students will also perform repairs and replacement of components on commonly used machine tools related to industry.

Objectives:

- Explain, interpret, and design technical drawings using known and unknown specifications.
- Diagnose and troubleshoot commonly used machine tools.
- Understand and apply both basic and advanced uses, and manipulation of commonly used precision measuring instruments to determine if components and parts are within specifications and tolerances.
- Apply competencies to design, construct, and assess a fabrication project to prescribed specifications.

**Process Control Components and Systems** **2 Credits/60 Clock-Hours**

In this course, students are introduced to a wide variety of commonly used process control systems, controllers, Pumps, Valves, and Compressors. This is to include the diagnostics, tear down, repair, and rebuild of commonly used pump types and compressors. Students will learn about various types of valves, controllers, and their application, diagnostics, and repair procedures.

Objectives:

- Identify and diagnose control systems, components, and circuits.
- Identify, use, diagnose, and repair commonly used pumps and compressors.
- Design, use, control and program advanced process controllers and systems.

**Electrical Systems II** **1 Credit/30 Clock-Hours**

In this course, students will study and master the wiring and use of real-world components such as a 3-phase motor, pushbuttons, switches, valves, and the use of a 24VDC control power supply. Students will use these components to study electrical control system wiring, pneumatic control circuit wiring, conductors, disconnects, and overcurrent protection and related applications. The combination of industrial components, and comprehensive curriculum will reinforce electrical wiring concepts and skills to build up the students' confidence and competence.

Objectives:

- Install control wiring in an electrical panel to control and manipulate commonly used components and motors.
- Understand, identify, and calculate the proper wire size, materials, and insulation required for different circuits, applications, and panel requirements.
- Install, wire, and monitor different types of control components and sensors. Including but not limited to contacts, momentary push buttons, limit switches, solenoids, and pressure switches.

# Utah System of Higher Education

Automation Technology
FY2025 / 30 Credits (900 Clock-Hours)

## Tooele Technical College

**Introduction to Manual Machining** **5 Credit/150 Clock-Hours**

The Introduction to Manual Machining course teaches students to utilize precision measuring instruments, read blueprints, draw simple blueprints, and how to utilize a manual knee mill and lathe. Students will be required to demonstrate and practice the knowledge and skills gained by manufacturing various projects that will be held to specified tolerances.

Objectives:

- Demonstrate safety practices and procedures.
- Utilize precision measuring instruments to document part dimensions on a hand-drawn blueprint.
- Use a manual lathe to machine basic precision round parts that include drilling, tapering, grooving, threading, and basic boring.
- Use a manual knee mill to make basic precision parts utilizing end mills, drills, and taps.

**Welding for Automation Technology** **4 Credit/120 Clock-Hours**

The Welding for Automation Technology course covers the basics to maintain and repair machinery and automated equipment using oxy/fuel, plasma cutting, and welding techniques to fabricate or mend broken parts promptly so that facilities can continue to distribute or produce goods.

Objectives:

- Demonstrate safety practices and procedures.
- Perform basic metal cutting using an oxy-fuel torch, plasma cutter, and a bandsaw on mild steel.
- Perform stringer beads, 50% overlap fillet, pipe to plate, and V-groove welds using the SMAW, GMAW, and FCAW welding processes in the 2F and 1G positions on mild steel.
- Perform stringer beads and fillet welds using the GTAW process in the 2F and 1G positions on mild steel.

**Utah System of Higher Education**
**Notification of Changes to Existing Academic Program**

| | | |
|---|---|---|
| **Institution Submitting Request:** | **Salt Lake Community College** | |
| | *Current* | *NEW (if applicable)* |
| **Program Title:** | **Electronics Assembly Technician** | **Electonics Assembly Technology** |
| **Sponsoring School, College, or Division:** | **School of Technical and Professional Studies** | **School of Technical and Professional Studies** |
| **Sponsoring Academic Department(s) or Unit(s):** | **SAT** | **Salt Lake Technical College** |
| **Classification of Instruction Program Code[1]:** | | **47.0105** |
| **Min/Max Credit Hours Required for Full Program:** | **384 hrs /** | **10 cr /** |
| **Proposed Effective Term for Program Change[2]:** | **Summer 2024** | |
| **Institutional Board of Trustees' Approval Date:** | **06/12/2024** | |

**Award Type:** Certificate of Proficiency

| | |
|---|---|
| ☒ | Name Change of Existing Program |
| ☒ | Program Restructure with or without Consolidation |
| ☐ | Program Transfer to a new academic department or unit |
| ☐ | Program Suspension |
| ☐ | Program Discontinuation |
| ☐ | Reinstatement of Previously Suspended Program |
| ☐ | Out of Service Area Delivery Program -- *Attached Signed MOU* |

**Program Change Type (check all that apply):**

**Program Change Description/Narrative**

*Briefly describe program change. For program discontinuance or suspension, include teach out plan.*

The new Electronics Assembly Technology program is part of USHE state alignment for technical colleges. It is an update to our former KELA/TEEA program, which is unique and supports the many occupations in the electronics industries (electronics assembly/mechanical assembly/soldering/ industry IPC inspection) This program is now in the USHE technical colleges data base, and now allows other institutions to adopt. This program is approved by USHE Technical alignment mandate and at present Bridgerland is the only institution we are collaborating with. The updates will build additional skills to include, mechanical assembly and DC fundamentals with NC3 DMM certification.

**Chief Academic Officer (or Designee) Signature**:

I, the Chief Academic Officer or Designee, certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

1 For CIP code classifications, please see http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55.

2 "Proposed Effective Term" refers to term when change to program is published. **For Suspensions and Discontinuations,** "effective term" refers to the term the program will suspend admissions.

Rachel Divine Lewis, Associate Provost

Date: April 3, 2024

☒

I understand that checking this box constitutes my legal signature.

# Electronics Assembly Technology (SLTC)(CTE) - Certificate of Achievement

### 2. 2024-25 Program Proposal - REVISE

## Read Before You Begin

**FILL IN** all fields required marked with an * after importing data.

**ATTACH** supporting documentation.

Complete the **Acknowledgement** section.

**LAUNCH** proposal by clicking Validate and Launch at the top. Once the proposal has been launched, **APPROVE** the proposal to move the proposal forward in the workflow.

**IMPORTANT:** If you are revising any courses within this program, please ensure a Course Revision Proposal has also been submitted.

This program proposal form is to REVISE a program, if you need to DISCONTINUE, SUSPEND, or create a NEW program please use the program proposal form designed for that purpose.

## Program Curriculum Outline (PCO)

**Use this form for revisions to existing *active approved programs*.**

**Is this a substantively revised program?*** ○ Yes ◉ No

**Requesting Division*** Operations & Academic Readiness, and Electronics

**Program Title*** Electronics Assembly Technology (SLTC)(CTE)

**Credential Type*** Certificate of Achievement

**Area of Study*** Construction, Manufacturing, and Applied Technologies

**Is this a Salt Lake Technical College Program?*** ◉ Yes ○ No

**Proposed Changes***

- [x] Program Description
- [x] Program Title
- [x] Learning Outcomes
- [x] Program Hours/Credits
- [ ] Program Entry Requirements
- [x] Career Opportunities
- [ ] Transfer information
- [x] Estimated Costs
- [ ] General Education
- [ ] Course(s) - Required
- [x] Course(s) - Electives
- [ ] Pathways map/Time to completion
- [ ] Other, list in rationale

**Rationale for revised program***

This revised program is an update to the existing Electronics Assembly Technician (TEEA/KELA) program. The updates are related to USHE Technical colleges alignment mandate and other department program enhancements to further support careers in electronics manufacturing.

**Effective Year**

AY 2024-2025

**If other than next catalog year, explain semester and provide rationale**

**What is the impact of this program revisions on the department, division, school?***

None in relationship to learning resources.

Impact on program outcomes will result in more skills to encompass more carreer opportunities.

**What is the impact of program revisions on other SLCC programs/courses?***

Other SLCC programs may be able to enroll and take advantage of these new courses to support student learning related to the technical field.

## Program Narrative

**Program Webpage*** https://www.slcc.edu/sltech/areas/electronics/index.aspx

**Program Narrative***

**Certificate of Achievement | 10 credits**

Program Website

Academic Advising

**Program Description**
This program covers electronics soldering and mechanical assembly. Coverage of component identification, schematic diagrams/symbols, direct current basics, and digital meters applications. The IPC certifications courses cover electronics inspection and workmanship criteria.

**Career Opportunities**

For state and national occupation information, visit O*Net Online and enter the following O*Net code(s):

- 51-2022.00 Electrical and Electronic Equipment Assemblers
- 51-2023.00 Electromechanical Equipment Assemblers

**Estimated Cost for Students**

Tuition and student fees: http://www.slcc.edu/satts/cost-financial-aid.aspx

Please visit the program website for up-to-date cost information.

**Program Entry Requirements**

Students must demonstrate basic education skills as assessed by the Test of Adult Basic Education (CASAS):

- Reading: 8.0
- Math: 8.0

Recommended: Ability to apply Basic Computer Literacy and to distinguish differences in colors, as these are abilities used in electronics technologies

**Program Narrative Check***

- [x] Program Description
- [x] Career Opportunities
- [x] Course Fees
- [ ] Transfer Articulation Information
- [x] Gainful Employment
- [x] Program Entry Requirements
- [ ] Specialized Accreditation

## General Education

**For AAS Degree only, what is the number of Distribution courses required.**

**Does the program include embedded, recommended or required specific General Education?***

- [ ] Yes, Required or Embedded
- [ ] Yes, Recommended
- [x] No

**What General Education are embedded, recommended or required?**

**Rationale for embedded, recommended or required General Education in the program.**

## Curriculum

**Total Credits/Hours*** 10

**Estimated Time to Completion*** 1

Program Curriculum*

## Program Requirements

# Electronics Assembly Technology

**PROGRAM DESCRIPTION:**

This program covers electronics soldering and mechanical assembly. Coverage of component identification, schematic diagrams/symbols, direct current basics, and digital meters applications. The IPC certifications courses cover electronics inspection and workmanship criteria.

Certificate of Achievement, 10 Credits/300 Clock-Hours Required, (CIP 47.0105)

**Program Outcomes/Objectives:**

Apply basic electronics fundamentals theory. [1,4]
Identify various industry components and their schematic symbols. [1,4]
Perform basic electrical measurements using a digital multimeter. [1,4]
Perform soldering techniques for through-hole and surface mount technologies. [1,4]
Identify and list safety procedures, and industry terminology. [1,4]
Perform mechanical assembly procedure and torqueing requirements. [1,4]
Apply IPC industry workmanship criteria to electronic assemblies. [1,4]
Inspect assemblies to IPC workmanship requirements. [1,4]

| Core (9 Credits/270 Clock-Hours) - Required | | Credits | Clock-Hours |
|---|---|---|---|
| Basic Electronics Fundamentals | | 1 | 30 |
| Mechanical Assembly | | 1 | 30 |
| IPC-A-610 Certification: Acceptability of Electronic Soldering | | 1 | 30 |
| Through-Hole Technology | | 3 | 90 |
| Surface Mount Technology | | 3 | 90 |
| Electives (1 Credit/30 Clock-Hours) - Select at least one course. | | | |
| IPC-J-STD-001 Certification: Requirements for Electronic Assemblies | | 1 | 30 |
| IPC-WHMA-A-620 Certification: Cable and Wire Harness Assemblies | | 1 | 30 |

**I have reviewed/updated the Program Curriculum Schema.**

- [x] Yes
- [ ] No

## Learning Outcomes

***Review the Curriculum Schema tab above within Program Curriculum, at the end you will find the program-level student learning outcomes with the indication as to how they align to the SLCC Student Learning Outcomes in brackets.***

***These are not in separate fields below to facilitate integration with the catalog and remove errors that occur with manual processes.***

**See SLCC Assessment webpage for additional details about College-Wide Student Learning Outcomes.**

**1. Acquire substantive knowledge**
**2. Communicate effectively**
**3. Develop quantitative literacies**
**4. Think critically**
**5. Express creatively**
**6. Knowledge and skills to be civically engaged**
**7. Work with others in a professional and constructive manner**
**8. Develop information literacy**
**9. Develop computer literacy**

**I have reviewed/updated the program learning outcomes within the Program Curriculum Schema and verified their alignment with the Student Learning Outcomes listed above.***

- [x] Yes
- [ ] No

## Acknowledgements and Attachments

**Please attach any required files by navigating to the right side menu and clicking "Files". Record when this has been completed in the checkbox, below.**

**Acknowledgement***

- [x] I acknowledge that all areas of this proposal are complete as required for this proposal.
- [x] Program Pathway (PCO4 template found on Curriculum SharePoint)
- [x] R401
- [x] Articulation Agreement (for all AS & AA degrees)
- [x] Gainful Employment (for Certificates of Completion)
- [ ] Financial Aid Evaluation

Financial Aid Evaluation

**Acalog Program OID**

**Acalog Owner**

**Alpha Ordering** E

UTAH SYSTEM OF HIGHER EDUCATION

# Utah System of Higher Education

Electronics Assembly Technology
FY2023 /10 Credits (300 Clock-Hours)

## Electronics Assembly Technology

Institutions: Salt Lake

*Certificate of Program Completion (Catalog Year: 2023, 10 Credits/300 Clock-Hours Required, CIP 47.0105)*

| **Core (9 Credits/270 Clock-Hours)** | | **Credits** | **Clock-Hours** |
|---|---|---|---|
| TEET 1010 | Basic Electronics Fundamentals | 1 | 30 |
| TEET 1020 | Mechanical Assembly | 1 | 30 |
| TEET 1030 | IPC-A-610 Certification: Acceptability of Electronic Soldering | 1 | 30 |
| TEET 1050 | Through-Hole Technology | 3 | 90 |
| TEET 1055 | Surface Mount Technology | 3 | 90 |
| **Electives (1 Credit/30 Clock-Hours)** | | | |
| TEET 1130 | IPC-J-STD-001 Certification: Requirements for Electronic Assemblies | 1 | 30 |
| TEET 1140 | IPC-WHMA-A-620 Certification: Cable and Wire Harness Assemblies | 1 | 30 |

# Utah System of Higher Education

Electronics Assembly Technology
FY2023 /10 Credits (300 Clock-Hours)

## PROGRAM DESCRIPTION

This program covers electronics soldering and mechanical assembly. Coverage of component identification, schematic diagrams/symbols, direct current basics, and digital meters applications. The IPC certifications courses cover electronics inspection and workmanship criteria.

Objectives:

- Apply basic electronics fundamentals theory.
- Identify various industry components and their schematic symbols.
- Perform basic electrical measurements using a digital multimeter.
- Perform soldering techniques for through-hole and surface mount technologies.
- Identify and list safety procedures, and industry terminology.
- Perform mechanical assembly procedure and torqueing requirements.
- Apply IPC industry workmanship criteria to electronic assemblies.
- Inspect assemblies to IPC workmanship requirements.

## COURSE DESCRIPTIONS

**Basic Electronics Fundamentals** **1 Credit / 30 Clock-Hours**

This course will cover basic concepts, techniques, and terminology used in industry. Coverage of basic concepts of direct current (DC), to include proper usage of a digital multimeter (DMM) for voltage, current and resistance measurements with NC3 DMM certification. The student will also be introduced to common electronic components, wires, identification and their schematic symbols.

Objectives:

- Apply basic electronics fundamentals theory for direct current.
- Identify various industry components and their schematic symbols.
- Perform basic electrical measurements using a digital multimeter.
- Obtain multimeter certification.

**Mechanical Assembly** **1 Credit / 30 Clock-Hours**

This course will cover the mechanical assembly skills required by industry. Identification of different types of hardware, metals, bolts/nuts/washers, wires, wire terminals/connectors and proper installation sequence as per IPC industry standards. Proper use and identification of common hand-tools, torque wrenches, drills, screw drivers, wire cutters/strippers, wrenches and crimping tools.

Objectives:

- Perform mechanical assembly of common hardware and meet torque requirements.
- Follow various procedures to complete an assembly.
- Identify and use common hand and power tools.
- Perform wire crimping with various hardware.
- Identify different types of metal and hardware.

**IPC-A-610 Certification: Acceptability of Electronic Assemblies** **1 Credit / 30 Clock-Hours**

The IPC-A-610 Certification: Acceptability of Electronic Assemblies course prepares students to obtain their certification. The Acceptability of Electronic Assemblies certification is the industry standard program for quality assurance/visual acceptance of electronic assemblies based on the world's most widely used

electronics assembly acceptability standard. Students become Certified IPC Specialist (CIS) with the IPC-A-610 certification: Acceptability of Electronic Assemblies.

Objectives:

- Discuss the purpose, contents, specifications, and terms contained within the IPC-A-610 specification.
- Recognize proper handling, ESD requirements and cleanliness.
- Recognize acceptability requirements for discrete wiring assembly.
- Identify acceptable mechanical assembly requirements.
- Identify the requirements for soldering assemblies and recognize the acceptability requirements for high voltage.
- Recognize all criteria related to terminal connections.
- Recognize the requirements for component installation including orientation, mounting, lead forming, damage, wire/lead termination.
- Recognize the requirements for surface mount assemblies.

**Through-Hole Technology** **3 Credits / 90 Clock-Hours**

This course will cover terminology and soldering techniques to perform industry soldering for wires, terminals, and components onto printed circuit boards to IPC industry standards. Component identification, wire types, proper installation, soldering, inspection and rework/repair. The course includes chemical safety, workstation operation, proper hand-tools usage and assembly procedures.

Objectives:

- Apply knowledge of correct component identification and installation.
- Follow established ESD guidelines.
- Follow established assembly procedures and work orders.
- Perform assembly procedures using soldering hand-tools at temperature specifications.
- Inspect assemblies to IPC standards for stated class(es) of build.
- List and identify through-hole terminology.
- Maintain a safe and clean working environment by maintaining assigned work area and by complying with procedures, rules, and regulations.
- Perform various types of through-hole soldering to industry standards.

**Surface Mount Technology** **3 Credits / 90 Clock-Hours**

This course will cover all aspects of surface mount technologies, to include component identification, soldering techniques, and inspection. The student will learn alignment, soldering with wire and paste, and rework techniques. Use of inspection tools, compliance to material safety data sheets, assembly cleaning procedures, and building to the stated IPC class required.

Objectives:

- Apply knowledge of correct component identification and installation.
- Follow established ESD guidelines.
- Follow established procedures and work orders.
- Use all available equipment and hand tools to perform assembly procedures.

- Maintain a safe and clean working environment by maintaining assigned work area and by complying with procedures, rules, and regulations.
- Perform various types of surface mount soldering to industry standards.

**NON-ALIGNED (ELECTIVE) COURSES**
**Salt Lake Community College**

**IPC-J-STD-001 Certification: Requirements for Soldered Electronic Assemblies**
**1 Credit / 30 Clock-Hours**

The IPC-J-STD-001 Certification course is an industry standard program for hand and machine soldering process and material requirements. Students become Certified IPC Specialist (CIS) with the IPC J-STD-001 certification. The course includes hands-on training and concludes with a qualifying examination. With this portable credential, students receive immediate recognition and value throughout the electronics industry.

Objectives:

- Recognize general safety requirements, necessary tools, and effects of electrostatic discharge (ESD).
- Make acceptable wire and terminal assemblies.
- Make acceptable through hole solder connections.
- Make acceptable surface mount solder connections.
- Identify general soldered connection acceptance requirements.
- Identify machine and reflow soldering process requirements.
- Recognize IPC Test methods and related standards.
- Pass the IPC J-STD-001 written and hands-on exams.

**IPC-WHMA-A-620 Certification: Cable and Wire Harness Assemblies** **1 Credit / 30 Clock-Hours**

The IPC-WHMA-A-620 Certification course is an industry standard program for cable and wire harness fabrication and installation. This training familiarizes students with the general requirements of the IPC/WHMA-A-620 Requirements and Acceptance for Cable and Harness Assemblies and concludes with a qualifying examination. Upon successful completion of this training program, participants will be certified as Application Specialists. With this portable credential, students receive immediate recognition and value throughout the electronics industry.

Objectives:

- Perform cable/wire preparation, measuring, and testing of Cable Assemblies.
- Make crimp terminations and insulation displacement connections.
- Make proper soldered terminations and learn about high voltage applications.
- Explain connectorization and Over-Molding/Potting.
- Make professional splices, Coaxial/Biaxial Cable Assemblies, and learn about Ultrasonic Welding.
- Discuss the importance of marking/labeling, wire bundle securing, shielding, and protective coverings.
- Complete common cable assemblies with correct terminations.

**Utah System of Higher Education**
**Notification of Changes to Existing Academic Program**

| | | |
|---|---|---|
| **Institution Submitting Request:** | **Salt Lake Community College** | |
| | *Current* | *NEW (if applicable)* |
| **Program Title:** | **Advanced PLCs & Robotics Technician** | **Robotics Technology** |
| **Sponsoring School, College, or Division:** | **School of Technical and Professional Studies** | **School of Technical and Professional Studies** |
| **Sponsoring Academic Department(s) or Unit(s):** | **School of Applied Technology** | **Salt Lake Technical College** |
| **Classification of Instruction Program Code[1]:** | **15.0406** | **47.0303** |
| **Min/Max Credit Hours Required for Full Program:** | **384 Hrs /** | **21 Cr /** |
| **Proposed Effective Term for Program Change[2]:** | **Summer 2024** | |
| **Institutional Board of Trustees' Approval Date:** | **06/12/2024** | |

**Award Type:** Certificate of Proficiency

| | |
|---|---|
| ☒ | Name Change of Existing Program |
| ☒ | Program Restructure with or without Consolidation |
| ☐ | Program Transfer to a new academic department or unit |
| ☐ | Program Suspension |
| ☐ | Program Discontinuation |
| ☐ | Reinstatement of Previously Suspended Program |
| ☐ | Out of Service Area Delivery Program -- *Attached Signed MOU* |

**Program Change Type (check all that apply):**

**Program Change Description/Narrative**

*Briefly describe program change. For program discontinuance or suspension, include teach out plan.*

The revised Robotics program is a result of USHE curriculum alignment for all technical college programs and courses. As a result the existing Advanced PLC's and Robotics Technician program has been substantively revised, including title change, to continue offering a program that prepares learners to enter career fields in the robotics and advanced manufacturing industries.

**Chief Academic Officer (or Designee) Signature**:

I, the Chief Academic Officer or Designee, certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

Rachel Divine Lewis; Associate Provosot

Date: April 10, 2024

☒

1 For CIP code classifications, please see http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55.
2 "Proposed Effective Term" refers to term when change to program is published. **For Suspensions and Discontinuations,** "effective term" refers to the term the program will suspend admissions.

I understand that checking this box constitutes my legal signature.

# Robotics Technology - Certificate of Proficiency CTE

### 2. 2024-25 Program Proposal - REVISE

## Read Before You Begin

**FILL IN** all fields required marked with an * after importing data.

**ATTACH** supporting documentation.

Complete the **Acknowledgement** section.

**LAUNCH** proposal by clicking Validate and Launch at the top. Once the proposal has been launched, **APPROVE** the proposal to move the proposal forward in the workflow.

**IMPORTANT:** If you are revising any courses within this program, please ensure a Course Revision Proposal has also been submitted.

This program proposal form is to REVISE a program, if you need to DISCONTINUE, SUSPEND, or create a NEW program please use the program proposal form designed for that purpose.

## Program Curriculum Outline (PCO)

**Use this form for revisions to existing *active approved programs*.**

**Is this a substantively revised program?*** (•) Yes ( ) No

**Requesting Division*** Operations & Academic Readiness, and Electronics

**Program Title*** Robotics Technology

**Credential Type*** Certificate of Proficiency CTE

**Area of Study*** Construction, Manufacturing, and Applied Technologies

**Is this a Salt Lake Technical College Program?*** (•) Yes ( ) No

**Proposed Changes***

- [x] Program Description
- [x] Program Title
- [x] Learning Outcomes
- [x] Program Hours/Credits
- [x] Program Entry Requirements
- [x] Career Opportunities
- [ ] Transfer information
- [x] Estimated Costs
- [ ] General Education
- [x] Course(s) - Required
- [ ] Course(s) - Electives
- [x] Pathways map/Time to completion
- [ ] Other, list in rationale

**Rationale for revised program***

State mandate to align all technical programs.

This allowed the opportunity to revise the former Advanced PLC's and Robotics Technician program. This is now a state approved program.

**Effective Year**

AY 2024-2025

**If other than next catalog year, explain semester and provide rationale**

**What is the impact of this program revisions on the department, division, school?***

This program will require additional funding to support changes.

Additional space and robots.

**What is the impact of program revisions on other SLCC programs/courses?***

None

## Program Narrative

**Program Webpage*** https://www.slcc.edu/sltech/areas/electronics/advanced-plc-robotics-tech.aspx

**Program Narrative***

**Certificates of Proficiency - 21 Credits/630 Clock-Hours**

**Program Website**

https://www.slcc.edu/sltech/areas/electronics/advanced-plc-robotics-tech.aspx

**Academic Advising**

**Program Description**

The Robotics Technology program covers essentials skills and safety, and electrical systems as a foundation to robotics technology. The robotics courses will cover robotics fundamentals, programming of 4-axis and 6-axis industrial robotic systems, and vision.

**Career Opportunities**

For state and national occupation information, visit O*Net Online and enter the following O*Net code(s):

Summary Report for: 17-3024.01 - Robotics Technicians

**Estimated Cost for Students - TBD**

Tuition and student fees: http://www.slcc.edu/satts/cost-financial-aid.aspx.

Please visit the program website for up-to-date cost information.

**Program Entry Requirements**

**CASAS Test Required**

Reading: 8.0

Math: 10.0

**Course Fees:** TBD

**Program Narrative Check***

- [x] Program Description
- [x] Career Opportunities
- [x] Course Fees
- [ ] Transfer Articulation Information
- [ ] Gainful Employment
- [x] Program Entry Requirements
- [ ] Specialized Accreditation

## General Education

**For AAS Degree only, what is the number of Distribution courses required.**

**Does the program include embedded, recommended or required specific General Education?***

- [ ] Yes, Required or Embedded
- [ ] Yes, Recommended
- [x] No

**What General Education are embedded, recommended or required?**

**Rationale for embedded, recommended or required General Education in the program.**

## Curriculum

**Total Credits/Hours*** 21

**Estimated Time to Completion*** 2

**Program Curriculum***

## Program Description

The Robotics Technology program covers essentials skills and safety, and electrical systems as a foundation to robotics technology. The robotics courses will cover robotics fundamentals, programming of 4-axis and 6-axis industrial robotic systems, and vision.

## Program Requirements

*Certificate of Proficiency, 21 Credits/630 Clock-Hours Required, CIP: 47.0303)*

**TEAM 1010 Essential Skills and Safety**
**TEAM 1050 Electrical Systems**
**TEAM 1205 Robotics Fundamentals**
**TEAM 1210 Introduction to Robotics**
**TEAM 1220 Robot Handling Tools**
**TEAM 1230 Robotics Vision**

## Time To Completion

Time to completion for full-time students at 24 hrs/week, would be approximately 6 months ( 1 semester). Time to completion for part-time students at 12 hrs/week, would be approximately 12 months ( 2 semesters).

## Program Learning Outcomes

Demonstrate a working knowledge of mechanical systems, maintenance, troubleshooting and repair techniques. [1,4]
Demonstrate a working knowledge of safety practices and procedures. [1,4]
Implement and properly use a variety of precision measurement tools and procedures. [1,4]
Apply mathematical concepts to real world applications. [1,4]
Read, utilize, and design blueprints and schematics. [1,4]
Operate, install, maintain, modify, and troubleshoot electrical systems. [1,4]
Apply and identify the technical aspects of industrial robotics;

principles of robotics; power supplies, movement systems, sensing, control systems and maintenance. [1,4]

Utilizing an industry four-axis robotic system, create programs for various industry applications, setup and usage of hardware and software, communications I/O, apply operation functions, end of arm tooling, usage of linear rail system and vision system. [1,4]
Create programs for a six-axis robotics handling system for various industry applications, use the teach pendant to operate, test, program, and troubleshoot robotic systems, and utilize teach frames. [1,4]
Create programs for robotics handling for various industry applications utilizing vision system and robotics handing skills. [1,4]

**I have reviewed/updated the Program Curriculum Schema.**

- [x] Yes
- [ ] No

## Learning Outcomes

***Review the Curriculum Schema tab above within Program Curriculum, at the end you will find the program-level student learning outcomes with the indication as to how they align to the SLCC Student Learning Outcomes in brackets.***

***These are not in separate fields below to facilitate integration with the catalog and remove errors that occur with manual processes.***

**See SLCC Assessment webpage for additional details about College-Wide Student Learning Outcomes.**

1. Acquire substantive knowledge
2. Communicate effectively
3. Develop quantitative literacies
4. Think critically
5. Express creatively
6. Knowledge and skills to be civically engaged
7. Work with others in a professional and constructive manner
8. Develop information literacy
9. Develop computer literacy

**I have reviewed/updated the program learning outcomes within the Program Curriculum Schema and verified their alignment with the Student Learning Outcomes listed above.***

- [x] Yes
- [ ] No

## Acknowledgements and Attachments

**Please attach any required files by navigating to the right side menu and clicking “Files”. Record when this has been completed in the checkbox, below.**

**Acknowledgement***

- [x] I acknowledge that all areas of this proposal are complete as required for this proposal.
- [x] Program Pathway (PCO4 template found on Curriculum SharePoint)
- [x] R401
- [ ] Articulation Agreement (for all AS & AA degrees)
- [ ] Gainful Employment (for Certificates of Completion)
- [ ] Financial Aid Evaluation

**Acalog Program OID**

**Acalog Owner**

**Alpha Ordering** R

UTAH SYSTEM OF HIGHER EDUCATION

**Utah System of Higher Education**
Robotics Technology
FY2024 / 21 Credits (630 Clock-Hours)

## Robotics Technology

Institutions: Salt Lake

*Certificate of Program Completion (Catalog Year: 2024, 21 Credits/630 Clock-Hours Required, CIP: 47.0303)*

| Aligned (21 Credits/630 Clock-Hours) | | Credits | Clock-Hours |
|---|---|---|---|
| TEAM 1010 | Essential Skills and Safety | 3 | 90 |
| TEAM 1050 | Electrical Systems | 2 | 60 |
| TEAM 1205 | Robotics Fundamentals | 4 | 120 |
| TEAM 1210 | Introduction to Robotics | 4 | 120 |
| TEAM 1220 | Robot Handling Tools | 4 | 120 |
| TEAM 1230 | Robotics Vision | 4 | 120 |

**Utah System of Higher Education**
Robotics Technology
FY2024 / 21 Credits (630 Clock-Hours)

## PROGRAM DESCRIPTION

The Robotics Technology program covers essentials skills and safety, and electrical systems as a foundation to robotics technology. The robotics courses will cover robotics fundamentals, programming of 4-axis and 6-axis industrial robotic systems, and vision.

Objectives:

- Demonstrate a working knowledge of mechanical systems, maintenance, troubleshooting and repair techniques.
- Demonstrate a working knowledge of safety practices and procedures.
- Implement and properly use a variety of precision measurement tools and procedures.
- Apply mathematical concepts to real world applications.
- Read, utilize, and design blueprints and schematics.
- Operate, install, maintain, modify, and troubleshoot electrical systems.
- Apply and identify the technical aspects of industrial robotics; principles of robotics; power supplies, movement systems, sensing, control systems and maintenance.
- Utilizing an industry four-axis robotic system, the student will create programs for various industry applications, setup and usage of hardware and software, communications I/O, apply operation functions, end of arm tooling, usage of linear rail system and vision system.
- Demonstrate ability to create programs for a six-axis robotics handling system for various industry applications, use the teach pendant to operate, test, program, and troubleshoot robotic systems, and utilize teach frames.
- Demonstrate ability to create programs for robotics handling for various industry applications utilizing vision system and robotics handing skills.

## ALIGNED COURSE DESCRIPTIONS

### Essential Skills and Safety — 3 Credits / 90 Clock-Hours

The Essential Skills and Safety course teaches the basic concepts and terminology used in automation technology. Students gain proficiency through applying concepts of fasteners, measurement equipment, tolerances, and hand and power tool operations. The course covers safety and workplace skills as well as school and shop specific operations, standards, and procedures.

Objectives:

- Demonstrate a working knowledge of general safety practices and procedures.
- Demonstrate a working knowledge of hand, power, and measurement tools.
- Demonstrate a working knowledge of hardware and fasteners.
- Apply working knowledge of workplace skills.
- Review school specific orientation, standards, and procedures.

### Electrical Systems — 2 Credits / 60 Clock-Hours

The Electrical Systems course teaches students to troubleshoot most electrical circuits they encounter in everyday life. Our world runs on electrical power and is fundamental to all work being done in automation. Students in this course gain relevant working knowledge in both AC & DC electrical systems. Competencies include: basic electrical circuit design, analysis, troubleshooting, instrumentation, schematic and component identification, physics of electricity and applicable math.

Objectives:

- Demonstrate a working knowledge of safety practices and procedures of basic electrical systems.
- Operate, install, maintain electrical systems, tools and devices.
- Read, utilize, and design electrical systems schematics.
- Apply principles and applications of electrical AC and DC systems.
- Apply systems diagnostics and troubleshooting of electrical circuits.

**Robotics Fundamentals** **4 Credits / 120 Clock-Hours**

The Robotics Fundamentals course is an introduction to robotics and applications for industrial robotics or autonomous machines. The technical aspects of industrial robotics are covered; principles of robotics; power supplies, movement systems; sensing, tooling, control systems and maintenance. The course includes safety, industrial applications, end effectors, and vision.

Objectives:

- Demonstrate safety practices and procedures of pneumatic systems.
- Identify and classify robots and classifications of industrial robots.
- Explain and list parts of the robot and degree of freedom.
- Explain fundamentals of robot programming.
- Describe and explain power supplies and movement systems.
- Explain and identify transducers used in automated systems.
- Explain and identify key fundamentals of robotics control systems and maintenance.

**Introduction to Robotics** **4 Credits / 120 Clock-Hours**

The Introduction to Robotics course covers use an industry 4-axis robotic system, creation of programs for various industry applications, vision and various end of arm tooling.

Objectives:

- Perform setup of required software/hardware and communication interface connections.
- Verify the installation.
- Perform programming, teaching, and playback, using blocky, graphic programming, and script control.
- Use the robotics system (software/hardware) for industry applications.
- Setup and use various end-effectors, for pick and place, 3D printing, laser engraving, writing/ drawing, vision, and linear rail system.
- Describes the workspace, principle, size, and technical specifications of the robot system.
- Identify and apply the coordinate systems.
- Apply motion modes to include jogging, point to point (PTP), ARC.

**Robot Handling Tools** **4 Credits / 120 Clock-Hours**

The Robot Handling Tools course covers the programming, setup, and troubleshooting of a 6-axis industrial robotics handling tool system as applied to industry applications.

Objectives:

- Apply safety precautions to robotic systems and work-cells.
- Identify robot systems and its components.
- Apply and identify the coordinate systems.
- Use the teach pendant to operate, test, program, and troubleshoot robotic systems.
- Power up, jog, and perform initial setup for robots.

- Utilize teach frames, and frame types applied to robots.
- Perform error and fault recovery procedures for robots, and backup and restore individual programs and files.
- Create motion program instructions to control robotic position, direction, and function.
- Create, modify, and execute a material handling program.
- Create and execute MACROs.
- Monitor, configure, force, and simulate input and output signals.

**Robotics Vision** **4 Credits / 120 Clock-Hours**

The Robotics Vision course covers the usage of a vision system to support robotics handling tool operations for various industry applications. This course uses and requires skills mastered from the Robot Handling Tools course.

Objectives:

- Apply safety practices and standards to robot installations, operation, and applications.
- Identify the components of a vision system.
- Install vision hardware, setup and calibrate a camera.
- Perform basic tasks and procedures to setup, teach, test, and modify robot vision program applications.
- Perform an inspection process with a vision system.
- Apply basic vision concepts and lighting.
- Perform the mastering of a robot using vision mastering procedures.
- Create tool frames for the robot applicator, using the vision system.
- Set up a 2-D single-view vision process.

# TAB N

23 April 2024
**MEMORANDUM**

**TO:** Executive Cabinet
**FROM:** Jason Pickavance, Interim Provost of Academic Affairs
Rachel Divine Lewis, Associate Provost
**SUBJECT:** Discontinue Energy Management (AAS) degree

The Energy Management (AAS) degree was initially approved in the Workforce and Economic Division of the college for the 2010-2011 academic year. Between then and now, the fields within Energy Management (EGMT) evolved rapidly into more focused, short-term learning to meet the growing workforce demand. Student enrollment in the AAS degree declined over this time period where enrollment in the not-for-credit certificates increased in not-for-credit Energy Career Training. The EGMT degree has insufficient enrollment and completion numbers to warrant continuing the program.

There is currently one student actively taking classes as part of the Energy Management (AAS) degree. That student is approved for graduation pending successful completion of Spring 2024 courses. The EGMT Program Manager has a list of students who declared the Energy Management (AAS) degree as their major even though they are not actively enrolled in program courses. As part of the teach-out plan, each student will be notified of the decision to discontinue the EGMT AAS program. They will be required to contact the Program Manager to discuss their progress in the EGMT AAS Program and the available courses and timelines that would allow them to complete the degree. If students are interested in pursuing similar credentials at SLCC, they are encouraged to complete a Construction Management (AAS/AS) degree, or Sustainable Building Construction (CC) certificate in combination with the individual Energy Management Workforce Certificates.

The Senate Curriculum Committee approved the degree to be discontinued on 26 February 2024 and the faculty Senate on 18 March 2024.

The Interim Provost recommends Executive Cabinet approve ending the Energy Management (AAS) degree as presented, effective Fall Semester, 2024.

**Utah System of Higher Education**
**Notification of Changes to Existing Academic Program**

| | | | |
|---|---|---|---|
| **Institution Submitting Request:** | **Salt Lake Community College** | | |
| | *Current* | | *NEW (if applicable)* |
| **Program Title:** | **Energy Management** | | |
| **Sponsoring School, College, or Division:** | **Workforce and Professional Educaiton Division** | | |
| **Sponsoring Academic Department(s) or Unit(s):** | **Continuing Education** | | |
| **Classification of Instruction Program Code[1]:** | **15.0503** | | |
| **Min/Max Credit Hours Required for Full Program:** | **67 cr** | **/ 69 cr** | **/** |
| **Proposed Effective Term for Program Change[2]:** | **Fall** | **2024** | |
| **Institutional Board of Trustees' Approval Date:** | **06/12/2024** | | |

**Award Type:** AAS

| | |
|---|---|
| ☐ | Name Change of Existing Program |
| ☐ | Program Restructure with or without Consolidation |
| ☐ | Program Transfer to a new academic department or unit |
| ☐ | Program Suspension |
| ☒ | Program Discontinuation |
| ☐ | Reinstatement of Previously Suspended Program |
| ☐ | Out of Service Area Delivery Program -- *Attached Signed MOU* |

**Program Change Type (check all that apply):**

**Program Change Description/Narrative**

*Briefly describe program change. For program discontinuance or suspension, include teach out plan.*

Discontinued AAS due to low enrollment. Individual EGMT courses will still be available.

**Chief Academic Officer (or Designee) Signature**:

I, the Chief Academic Officer or Designee, certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

Rachel Divine Lewis; Associate Provost

Date: April 11, 2024

☒

I understand that checking this box constitutes my legal signature.

1 For CIP code classifications, please see http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55.
2 "Proposed Effective Term" refers to term when change to program is published. **For Suspensions and Discontinuations,** "effective term" refers to the term the program will suspend admissions.

# Salt Lake Community College | Energy Management (AAS)

## Teach-out Plan

The Energy Management (EGMT) Associates of Applied Science (AAS) program began teaching out the current version of the program in Spring Semester of 2024 and is scheduled to last for one year, ending with Summer Semester 2025. The EGMT degree has insufficient enrollment and completion numbers to warrant continuing the program. If students are interested in pursuing similar credentials at Salt Lake Community College, they are encouraged to complete a Construction Management (AAS/AS) degree, or Sustainable Building Construction (CC) certificate in combination with the individual Energy Management Workforce Certificates.

## Plan for securing resources for teach out

All resources, program support, and budget considerations will remain unchanged during the teach-out period.

There is no projected impact to faculty or staff since similar or identical courses will be available throughout the teach-out period and then afterwards as part of the individual certificates offered.

The current number of faculty, staff, and instructional resources are projected to remain active throughout the teach-out period.

Courses will be offered during the same scheduled semesters of the school year as they are currently available. Students will need to complete them during the available course dates or will need to choose the available certificate and non-credit courses that have similar objectives.

## Plan for student communication

There is currently only one student actively taking classes as part of the EGMT AAS. That student has already submitted and been approved for graduation pending successful completion of Spring 2024 courses. The EGMT Program Manager has a list of the remaining students that have declared the Energy Management AAS degree as their major of study—even though they are not actively progressing in the program. This contact list includes student details and information from the available SLCC mailing and email records as well as individual communication records between the students, their instructors, and the program manager. At the determined date each student will be notified of the decision to discontinue the EGMT AAS program and they will be required to contact the Program Manager to discuss their progress in the EGMT AAS Program and the available courses and timelines that would allow them to complete the degree. If the declared students have not contacted the Program Manager to discuss their prospective schedule by July 31, 2024 the for-credit course options for the AAS will be cancelled, the teach out will be completed and the not-for-credit course options will be the only option available starting Fall 2024. If students contact the Program Manager by July 31, 2024 the course schedule for the teach-out will be presented and honored.

A sample of the announcement letter that will be mailed and emailed to students that have declared the Energy Management AAS is included below.

*[Sample Teach-Out Letter]*

Dear […*Student Name*…],

The Salt Lake Community College **Energy Management Program** has made the decision to teach out the Associates of Applied Science in Energy Management.

**Your Options:**

Students who have declared Energy Management as their major of study have until July 31, 2024, to contact the program management to discuss options and create a plan to allow then to complete the program required courses during the 2024-25 academic calendar year.

Alternately, students are invited to complete one of more of the not-for-credit and professional certificate courses to gain knowledge and receive training and education related to a career in energy. Certificates in **Energy Efficient Lighting**, **HVAC System Optimization**, and **Energy Modeling** will continue to be offered without interruption.

**Who to contact with questions:**

If you have questions about the discontinuation of the Energy Management Program, hot it may impact your individual learning plan, including graduation and possible transfer opportunities please contact the following member of SLCC Staff:

Rhett K. Bigelow
Energy Management Program Manager
Phone/text at 801-957-5252
rhett.bigelow@slcc.edu

Thank you for choosing Salt Lake Community College. We are committed to helping you complete your Associates of Applied Science degree during the teach-out period. Please contact us with any questions you may have about the process and the program schedule for the 2024-25 school year by July 31, 2024.

Regards,

Rhett K. Bigelow
Program Manager, Energy Utilities and Licensing
801-957-5252
rhett.bigelow@slcc.edu

# TAB O

23 April 2024

**MEMORANDUM**

**TO:** Executive Cabinet

**FROM:** Jason Pickavance, Interim Provost of Academic Affairs
Rachel Divine Lewis, Associate Provost

**SUBJECT:** Micro/Nanotechnology Certificate Consolidation and Name Change

The Engineering Department proposes to consolidate the curriculum and learning outcomes of the Microscopy and Nanotechnology certificates into one, Micro/Nanotechnology. The Microscopy certificate will be renamed and revised; the Nanotechnology certificate will be discontinued. Students enrolled in the Nanotechnology certificate will be notified of the change and moved to the new certificate to complete.

The revised Microscopy Certificate of Proficiency program is a consolidation of existing Microscopy and Nanotechnology curriculum. The purpose of this consolidation is to provide students with one, comprehensive certificate for micro-/nanotechnology instruction and training. Additional elective options have been added to provide opportunities for instruction in engineering, chemistry, statistics, and the natural sciences. These changes are in response to advice provided by members of SLCC's Microscopy Professional Advisory Committee (PAC). Suggestions from PAC members include recommendations from Hexcel and Merit Sensor suggesting the inclusion of additional chemistry courses for a more comprehensive technician training program.

Students who complete the certificate program will be highly qualified for most entry-level laboratory assistant or technician positions in a variety of fields. These fields include, but are not limited to: semiconductor manufacture, materials research, medical diagnostics, life sciences research, product development, quality assurance, failure analysis, and process optimization. According to Utah’s Department of Workforce Services, 4-star jobs are expected to have t average employment growth with a moderate volume of annual job openings. The need for replacements, rather than business expansion is projected to make up most of job openings in the coming decade. The inexperienced wages statewide and in the Salt Lake service area are approximately $19.60 per hour. With experience and an associated degree, wages rise to $24.00 per hour ($49,900 annually).

Both proposals were discussed and approved by the Senate Curriculum Committee on 26 February 2024 the Faculty Senate on 18 March 2024.

The Interim Provost recommends Executive Cabinet approve the program name changes and revised curriculum as presented, effective Fall Semester, 2024.

**Utah System of Higher Education**
**Notification of Changes to Existing Academic Program**

| | | |
|---|---|---|
| **Institution Submitting Request:** | **Salt Lake Community College** | |
| | *Current* | *NEW (if applicable)* |
| **Program Title:** | **Microscopy** | **Mico/Nanotechnology** |
| **Sponsoring School, College, or Division:** | **School of Science, Mathematics, and Engineering** | |
| **Sponsoring Academic Department(s) or Unit(s):** | **Natural Sciences and Engineering** | |
| **Classification of Instruction Program Code[1]:** | **15.1601** | |
| **Min/Max Credit Hours Required for Full Program:** | **20 cr / ** | **29 cr / ** |
| **Proposed Effective Term for Program Change[2]:** | **Fall 2024** | |
| **Institutional Board of Trustees' Approval Date:** | **06/12/2024** | |

**Award Type:** Certificate of Proficiency

| | |
|---|---|
| ☒ | Name Change of Existing Program |
| ☒ | Program Restructure with or without Consolidation |
| ☐ | Program Transfer to a new academic department or unit |
| ☐ | Program Suspension |
| ☐ | Program Discontinuation |
| ☐ | Reinstatement of Previously Suspended Program |
| ☐ | Out of Service Area Delivery Program -- *Attached Signed MOU* |

**Program Change Type (check all that apply):**

**Program Change Description/Narrative**

*Briefly describe program change. For program discontinuance or suspension, include teach out plan.*

The revised Microscopy Certificate of Proficiency program is a consolidation of existing Microscopy and Nanotechnology curriculum. The purpose of this consolidation is to provide students with one, comprehensive certificate for micro-/nanotechnology instruction and training. Additional elective options have been added to provide opportunities for instruction in engineering, chemistry, statistics, and the natural sciences. These changes are in response to advice provided by members of SLCC's Microscopy Professional Advisory Committee (PAC). Suggestions from PAC members include recommendations from Hexcel and Merit Sensor suggesting the inclusion of additional chemistry courses for a more comprehensive technician training program.

**Chief Academic Officer (or Designee) Signature**:

I, the Chief Academic Officer or Designee, certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

Rachel Divine Lewis, Associate Provost

1 For CIP code classifications, please see http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55.

2 "Proposed Effective Term" refers to term when change to program is published. **For Suspensions and Discontinuations,** "effective term" refers to the term the program will suspend admissions.

Date: 04/19/2024

☒

I understand that checking this box constitutes my legal signature.

# Salt Lake Community College
# PCO Curriculum and Learning Outcomes
# for Certificate of Proficiency (CP)

**Program Title:** Micro-/Nanotechnology

**Credential**: Certificate of Proficiency (CP) **Total Cr:** 29-32

## PROGRAM LEARNING OUTCOMES

**Program Student Learning Outcomes mapped to SLCC College-Wide Student Learning Outcomes.**

1. Acquire substantive knowledge
2. Communicate effectively
3. Develop quantitative literacies
4. Think critically & creatively
5. Become a community engaged learner
6. Work in a professional & constructive manner
7. Develop computer & information literacy
8. Develop lifelong wellness

| Program Learning Outcomes | SLCC CWSLO # |
|---|---|
| Students will learn how to characterize micro and nanoscale structures using Atomic Force Microscopy, Scanning Electron Microscopy, and Transmission Electron Microscopy. Additionally, students will learn how to analyze nanoscale materials using energy dispersive x-ray spectroscopy (EDS) and UV-VIS spectroscopy. | 1 – Acquire substantive knowledge.<br>2 – Communicate effectively.<br>3 – Develop quantitative literacy.<br>4 – Think critically and creatively. |
| Students will learn how to characterize microstructures using a variety of optical microscopy techniques. Techniques include bright field, dark field, phase contrast, polarized light, and fluorescence microscopy. | 1 – Acquire substantive knowledge.<br>2 – Communicate effectively.<br>3 – Develop quantitative literacy.<br>4 – Think critically and creatively |
| Students will demonstrate their ability to deposit micro and nanoscale structures utilizing spin coating and microcontact printing. Students will subsequently demonstrate their ability to use the AFM, SEM, and optical microscopy techniques to analyze samples. | 1 – Acquire substantive knowledge.<br>3 – Develop quantitative literacy.<br>4 – Think critically and creatively. |
| Students will develop a professional decorum that is transferable to an industrial or academic nanofabrication lab by conducting presentations in associated course work. Preparation for the presentation involves; research skills, presentation skills, and technical reporting and documentation. | 2 – Communicate effectively.<br>3 – Develop quantitative literacy.<br>4 – Think critically and creatively.<br>5 – Civic engagement.<br>6 – Work professionally and constructively.<br>7 – Develop computer and information literacy. |
| Students will understand the chemical and physical principles involved with patterning and deposition systems. | 1 – Acquire substantive knowledge.<br>3 – Develop quantitative literacy.<br>4 – Think critically and creatively. |
| Students will recognize when fabrication procedures are top-down and when the other fabrication procedures are bottom-up by examining a wide variety of techniques such as, reactive ion etch, dry etch, chemical vapor deposition (CVD), physical vapor disposition (PVD), and wet chemical synthesis. | 1 – Acquire substantive knowledge.<br>3 – Develop quantitative literacy.<br>4 – Think critically and creatively. |
| Students will perform laboratory exercises associated with nanomaterial synthesis and fabrication (wet chemical synthesis, electrodeposition, PVD, CVD, and photolithography). | 1 – Acquire substantive knowledge.<br>3 – Develop quantitative literacy.<br>4 – Think critically and creatively. |
| Students will learn fundamentals concepts associated with inorganic chemistry such as: atomic structure chemical bonding, chemical reactions, solution chemistry, stoichiometry, periodic table, thermochemistry, kinetics, gases, and kinetic molecular theory will be covered. Student understanding will be assessed using a series quizzes and exams. Students will visualize inorganic chemical principles discussed in lecture by conducting a series of lab activities. | 1 – Acquire substantive knowledge.<br>3 – Develop quantitative literacy.<br>4 – Think critically and creatively. |
| Students will learn chemical principles including chemical kinetics, equilibria, acids and bases, entropy and free energy, precipitation reactions, electrochemistry, main group chemistry, nuclear chemistry, metallic bonding theories, hybridization, intro to organic chemistry. Student understanding will be assessed using a series quizzes and exams. | 1 – Acquire substantive knowledge.<br>3 – Develop quantitative literacy.<br>4 – Think critically and creatively. |

See SLCC Assessment webpage for additional details about College-Wide Student Learning Outcomes

## REQUIRED COURSES (23 cr min)

All course changes (title, credit, pre-req, semester taught, etc …) must be proposed on the CCO document.

| Prefix | Number | Title | Cr/Hrs |
|---|---|---|---|
| CHEM | 1210 | General Chemistry I | 4 |
| CHEM | 1215 | General Chemistry I Lab | 1 |
| CHEM | 1220 | General Chemistry II | 4 |
| EE | 1010 | Introduction to Laboratory Instruments and Methods | 1 |
| ENGR | 1050 | Introduction to Nanotechnology (PS) | 3 |
| ENGR | 2050 | Nano II | 3 |
| MSE | 1820 | Fundamentals of Optical Microscopy | 2 |
| MSE | 2320 | Introduction to Scanning Probe Microscopy | 2 |
| MSE | 2330 | Introduction to Scanning Electron Microscopy | 2 |
| MSE | 2000 | Cooperative Education in Materials Science | 1-2 |
| | | **TOTAL:** | 23-24 |

## ELECTIVE COURSES (6-8 cr)

Elective requirements: select 6-8 credits from the courses listed below

| Prefix | Number | Title | Cr/Hrs |
|---|---|---|---|
| MSE | 2010 | Introduction to Materials Science Engineering | 4 |
| MSE | 2160 | Elements of Materials Science | 3 |
| CHEM | 2310 | Organic Chemistry I | 4 |
| BTEC | 1000 | Biotech: Engineering Life | 3 |
| BTEC | 1200 | Introductory Biotechnology Lab | 1 |
| GEO | 1010 | Introduction to Geology | 3 |
| GEO | 1115 | Physical Geology Lab | 1 |
| CHEM | 1250 | Introduction to Chemical and Instrumental Analysis | 4 |
| MATH | 1040 | Introduction to Statistics | 3 |
| PHYS | 1010 | Elementary Physics | 4 |
| | | **TOTAL:** | 6-8 |

# Micro-/Nanotechnology: CP (CTE) - Certificate of Proficiency CTE

### 2023-24 Program Proposal - REVISE

## Read Before You Begin

**IMPORT** curriculum data from the Catalog by clicking in the top left task bar.

**FILL IN** all fields required marked with an * after importing data.

**ATTACH** supporting documentation.

Complete the **Acknowledgement** section.

**LAUNCH** proposal by clicking Validate and Launch at the top. Once the proposal has been launched, **APPROVE** the proposal to move the proposal forward in the workflow.

**IMPORTANT:** If you are revising any courses within this program, please ensure a Course Revision Proposal has also been submitted.

This program proposal form is to REVISE a program, if you need to DISCONTINUE, SUSPEND, or create a NEW program please use the program proposal form designed for that purpose.

## Program Curriculum Outline (PCO)

**Use this form for revisions to existing *active approved programs*.**

**Is this a substantively revised program?*** ◉ Yes ○ No

**Requesting Division*** Natural Sciences & Engineering

**Program Title*** Micro-/Nanotechnology: CP (CTE)

**Credential Type*** Certificate of Proficiency CTE

**Area of Study*** Science, Engineering, and Mathematics

**Is this a Salt Lake Technical College Program?*** ○ Yes ◉ No

**Proposed Changes***

- [x] Program Description
- [x] Learning Outcomes
- [x] Program Hours/Credits
- [ ] Program Entry Requirements
- [ ] Career Opportunities
- [ ] Transfer information
- [ ] Estimated Costs
- [ ] General Education
- [x] Course(s) - Required
- [x] Course(s) - Electives
- [x] Pathways map/Time to completion
- [ ] Other, list in rationale

**Rationale for revised program****

The revised Microscopy Certificate of Proficiency program is a consolidation of existing programs in microscopy and nanotechnology. The purpose of this consolidation is to provide students with one, comprehensive certificate for micro-/nanotechnology instruction and training. Additional elective options have been added to provide opportunities for addtional instruction in engineering, chemistry, statistics, and the natural sciences. These changes are in response to advice provided by members of SLCC's Microscopy Professiona Advisory Committee (PAC) Suggestions from PAC members include recommendations from Hexcel and Merit Sensor suggesting the inclusion of additional chemistry courses for a more comprehensive technician training program.

**Effective Year**

AY 2024-2025

**If other than next catalog year, explain semester and provide rationale**

N/A

**What is the impact of this program revisions on the department, division, school?***

Increases in SME enrollment, industry support, and University participation are potential impacts resulting from microscopy/nanotechnology program consolidation.

**What is the impact of program revisions on other SLCC programs/courses?***

No impact.

## Program Narrative

**Program Webpage***

https://www.slcc.edu/microscopy/index.aspx

**Program Narrative***

**Certificate of Proficiency | 29-32 credits**

The consolidated Micro-/Nanotechnology Certificate of Proficiency Program is a two-year certification program comprised of coursework that provides students with industry-based skill sets related to chemical synthesis, chemical analysis, basic micro-/nanofabrication procedures, and nanocharacterization. This program will provide students with skills in basic optical, electron, and scanning probe microscopy techniques. Electron and scanning probe microscopes are powerful tools designed to generate topographical images and data on a wide variety of micro -and nanoscale materials. These microscopes are used in a multitude of academic and industrial endeavors across many scientific disciplines. Additionally, students will acquire skill sets associated with basic micro- and nanofabrication procedures. This program will expose students to equipment and techniques common place in micro- and nanofabrication laboratories including wet chemical synthesis, physical vapor deposition (PVD), chemical vapor deposition (CVD), template-assisted electrodeposition, and photolithograpy. Students who complete the program will be proficient in the basic use of optical microscopes, scanning probe microscopes, electron microscopes (SEM and TEM), chemical characterization (EDS), image processing, and interpretation of microscopy data. Students will acquire an understanding of the operational fundamentals of micro-/nanofabrication synthesis and instrumentation methods, in addition to experience utilizing the equipment and processes. The program includes a diverse elective list that allows students to pursing additional instruction in engineering, chemistry, or the natural sciences. This program complies with ASTM Nanotechnology Workforce Education Standard E3001-15 (characterization). Due to ASTM compliance, students can pursue ASTM certifications in the above categories by completing the appropriate exam. Successful completion of ASTM exams will demonstrate proficiency in the regulatory nanotechnology-based requirements that comply with industry standards. This is a two-year certification program comprised of coursework with a substantial hands-on component. This certificate is meant to be a stackable credential, meaning students can use the knowledge and technical skills acquired to enhance their chosen field of study or employment.

**Career Opportunities**

Students completing this program will be highly qualified for most entry-level lab assistant or technician positions in a variety of fields. These fields include, but are not limited to; semiconductor manufacture, materials research, medical diagnostics, life sciences research, product development, quality assurance, failure analysis, and process optimization.

**Estimated Cost for Students**

Tuition and student fees: http://www.slcc.edu/student/financial/tuition-fees.aspx

Course fees: $35

Note: Fees vary based upon specific registration and are subject to changes.

**Program Narrative Check***

- [x] Program Description
- [x] Career Opportunities
- [x] Course Fees
- [ ] Transfer Articulation Information
- [ ] Gainful Employment
- [ ] Program Entry Requirements

## General Education

| | |
|---|---|
| **For AAS Degree only, what is the number of Distribution courses required.** | N/A |
| **Does the program include embedded, recommended or required specific General Education?*** | ☑ Yes ☐ No |
| **What General Education are embedded, recommended or required?** | ENGR 1050 - Introduction to Nanotechnology (PS) |
| **Rationale for embedded, recommended or required General Education in the program.** | ENGR 1050 is a required course that provides the foundational knowledge needed for subsequent coursework in the program. |

Program Curriculum*

## Program Requirements

**EE 1010 Introduction to Laboratory Instruments and Methods**

## Required Courses (23-24 Credits)

**CHEM 1210 General Chemistry I**
**CHEM 1215 General Chemistry Lab I**
**ENGR 1050 Introduction to Nanotechnology (PS)**
**MSE 1820 Fundamentals of Microscopy**
**MSE 2320 Introduction to Scanning Probe Microscopy**
**MSE 2330 Introduction to Scanning Electron Microscopy**
**MSE 2000 Cooperative Education In Material Science Engineering**
**CHEM 1220 General Chemistry II**
**ENGR 2050 Nano II**

## Elective Courses (6-8 Credits)

Select from the following:

**MSE 2010 Introduction to Materials Science Engineering**
**MSE 2160 Elements of Material Science**
**[After] GEO 1110 Physical Geology**
**GEO 1115 Physical Geology Lab**
**CHEM 2310 Organic Chemistry I**
**CHEM 1230 Introduction to Chemical and Instrumental Analysis**
**BTEC 1000 Biotech: Engineering Life**
**BTEC 1200 Introductory Biotechnology Lab**
**PHYS 1010 Elementary Physics**
**MATH 1040 Introduction to Statistics**

## Time to Completion & Graduation Map

**Part-time: Four semesters**

**Students who need to take preparatory classes to satisfy requirements of first semester classes should plan on extra time to complete the program.**
**See attached PCO pathway for a sample schedule**

## Program Learning Outcomes

**Program learning outcome alignment with Student Learning Outcomes in brackets.**

**Students will learn how to characterize micro and nanoscale structures using Atomic Force Microscopy, Scanning Electron Microscopy, and Transmission Electron Microscopy. Additionally, students will learn how to analyze nanoscale materials using energy dispersive x-ray spectroscopy (EDS) and UV-VIS spectroscopy. [1, 2, 3, 4]**

**Students will learn how to characterize microstructures using a variety of optical microscopy techniques. Techniques include bright field, dark field, phase contrast, polarized light, and fluorescence microscopy. [1, 2, 3, 4]**

**Students will demonstrate their ability to deposit micro and nanoscale structures utilizing spin coating and microcontact printing. Students will subsequently demonstrate their ability to use the AFM, SEM, and optical microscopy techniques to analyze samples. [1, 3, 4]**

**Students will develop a professional decorum that is transferable to an industrial or academic nanofabrication lab by conducting presentations in associated course work. Preparation for the presentation involves; research skills, presentation skills, and technical reporting and documentation. [2, 3, 4, 5, 6, 7]**

**Students will understand the chemical and physical principles involved with patterning and deposition systems. [1, 3, 4]**

**Students will recognize when fabrication procedures are top-down and when the other fabrication procedures are bottom-up by examining a wide variety of techniques such as, reactive ion etch, dry etch, chemical vapor deposition (CVD), physical vapor disposition (PVD), and wet chemical synthesis. [1, 3, 4]**

**Students will perform laboratory exercises associated with nanomaterial synthesis and fabrication (wet chemical synthesis, electrodeposition, PVD, CVD, and photolithography). [1, 3, 4]**

**Students will learn fundamentals concepts associated with inorganic chemistry such as: atomic structure chemical bonding, chemical reactions, solution chemistry, stoichiometry, periodic table, thermochemistry, kinetics, gases, and kinetic molecular theory will be covered. Student understanding will be assessed using a series quizzes and exams. Students will visualize inorganic chemical principles discussed in lecture by conducting a series of lab activities. [1, 3, 4]**

**Students will learn chemical principles including chemical kinetics, equilibria, acids**

Students will learn chemical principles including chemical kinetics, equilibria, acids and bases, entropy and free energy, precipitation reactions, electrochemistry, main group chemistry, nuclear chemistry, metallic bonding theories, hybridization, intro to organic chemistry. Student understanding will be assessed using a series quizzes and exams. [1, 3, 4]

**Total Credits/Hours*** 29

**Estimated Time to Completion*** 4

## Learning Outcomes and Curriculum

**SLCC College-Wide & General Education Student Learning Outcomes.**
***Review the Curriculum Schema tab above within Program Curriculum, at the end you will find the program-level student learning outcomes with the indication as to how they align to the SLCC Student Learning Outcomes in brackets.***

***These are not in separate fields below to facilitate integration with the catalog and remove errors that occur with manual processes.***

**See SLCC Assessment webpage for additional details about College-Wide Student Learning Outcomes.**

1. Acquire substantive knowledge
2. Communicate effectively
3. Develop quantitative literacies
4. Think critically
5. Express creatively
6. Knowledge and skills to be civically engaged
7. Work with others in a professional and constructive manner
8. Develop information literacy
9. Develop computer literacy

**I have reviewed/updated the program learning outcomes within the Program Curriculum Schema and verified their alignment with the Student Learning Outcomes listed above.*** ☑ Yes ☐ No

## Acknowledgements and Attachments

**Please attach any required files by navigating to the right side menu and clicking “Files”. Record when this has been completed in the checkbox, below.**

**Acknowledgement***

- [x] I acknowledge that all areas of this proposal are complete as required for this proposal.
- [x] Program Pathway (PCO4 template found on Curriculum SharePoint)
- [ ] R401
- [ ] Articulation Agreement (for all AS & AA degrees)
- [ ] Gainful Employment (for Certificates of Completion)
- [ ] Financial Aid Evaluation

**Acalog Program OID** 9082

**Acalog Owner** Science, Engineering, and Mathematics

**Alpha Ordering**

**Utah System of Higher Education**
**Notification of Changes to Existing Academic Program**

| | | |
|---|---|---|
| **Institution Submitting Request:** | **Salt Lake Community College** | |
| | *Current* | *NEW (if applicable)* |
| **Program Title:** | **Nanotechnology** | |
| **Sponsoring School, College, or Division:** | **School of Science, Mathematics, and Engineering** | |
| **Sponsoring Academic Department(s) or Unit(s):** | **Natural Sciences and Engineering** | |
| **Classification of Instruction Program Code[1]:** | **15.1601** | |
| **Min/Max Credit Hours Required for Full Program:** | **/** | **/** |
| **Proposed Effective Term for Program Change[2]:** | **Fall 2024** | |
| **Institutional Board of Trustees' Approval Date:** | **06/12/2024** | |

**Award Type:** Certificate of Proficiency

| | |
|---|---|
| ☐ | Name Change of Existing Program |
| ☐ | Program Restructure with or without Consolidation |
| ☐ | Program Transfer to a new academic department or unit |
| ☐ | Program Suspension |
| ☒ | Program Discontinuation |
| ☐ | Reinstatement of Previously Suspended Program |
| ☐ | Out of Service Area Delivery Program -- *Attached Signed MOU* |

**Program Change Type (check all that apply):**

**Program Change Description/Narrative**

*Briefly describe program change. For program discontinuance or suspension, include teach out plan.*

The Engineering Department proposes to consolidate the curriculum and learning outcomes of the Microscopy and Nanotechnology certificates into one, Micro/Nanotechnology. The Microscopy certificate will be renamed and revised; the Nanotechnology certificate will be discontinued. Students enrolled in the Nanotechnology certificate will be notified of the change and moved to the new certificate to complete. These changes are in response to advice provided by members of SLCC's Microscopy Professional Advisory Committee (PAC). Suggestions from PAC members include recommendations from Hexcel and Merit Sensor suggesting the inclusion of additional chemistry courses for a more comprehensive technician training program.

**Chief Academic Officer (or Designee) Signature**:

I, the Chief Academic Officer or Designee, certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

Rachel Divine Lewis, Associate Provost

1 For CIP code classifications, please see http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55.

2 "Proposed Effective Term" refers to term when change to program is published. **For Suspensions and Discontinuations,** "effective term" refers to the term the program will suspend admissions.

Date: April 19, 2024

☒

I understand that checking this box constitutes my legal signature.

# TAB P

22 May 2024

**MEMORANDUM**

**TO:** Executive Cabinet

**FROM:** Jason Pickavance, Interim Provost of Academic Affairs
Rachel Divine Lewis, Associate Provost

**SUBJECT:** Power Equipment and Motorcycle Technology – SLTC Certificate

Faculty and academic leaders in the Aviation & Transportation Related Technologies are proposing to consolidate and move existing Motorcycle & Outdoor Power Equipment certificates (both completion and proficiency) into the substantively revised *Power Equipment and Motorcycle Technology* certificate into Salt Lake Technical College at SLCC. This certificate will be situated with similar Salt Lake Tech programs, Automotive and Diesel Systems, with lower tuition rates for students, increased opportunities for community access, and better employability outcomes for students in our service area.

This major has been a one-year certificate for years, so there will be little to no impact on other Salt Lake Tech nor SLCC departments. There is sufficient faculty and resources for the certificate currently, with the intent to include this certificate in a future legislative appropriation to support moving additional academic credit instruction (EMT, Advanced EMT, and Police Academy) to Salt Lake Tech. The certificates are taught currently in two, 16-week semesters in the 8-week blocks. The curriculum was redesigned into four, 8-week lecture/lab courses to even out the terms of study and support additional certificate teaching cycles.

Per the Utah Department of Workforce Services Occupation Outlook, the need for replacement workers and business expansion factors into a low volume of annual job openings for motorcycle mechanics, outdoor power equipment, and other small engine mechanics. The statewide hourly wage for entry-level workers is approx. $19.30 per hour in the Salt Lake metro area ($40,140 annually).

The Senate Curriculum Committee approved the certificate unanimously at their last meeting on the year, Mon., 22 April 2024, and after the final Faculty Senate meeting. The Faculty Senate President presented the proposal to Faculty Senators by email on 23 April and asked for an e-vote exception. 22 Senators voted to approve the proposal, one voted against – the total of responses did not meet a quorum and the proposal was tabled by Faculty Senate until Fall Semester.

After careful deliberation by the Interim Provost, he recommends Executive Cabinet approve the certificates as presented, effective Summer Semester, 2024.

# Salt Lake Community College
# PCO Program Narrative

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**Program Title**: Power Equipment and Motorcycle Technician

**Credential:** Certificate of Proficiency

**School:** Salt Lake Technical College

**Division**: Automotive

**Total Credits:** 24

**Campus**: Miller

**Building:** MATC **Room:** 210

**Telephone:** 801-957-5240

**Webpage:** Motorcycle/Outdoor Power Equipment

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**Program Faculty:** Michael Monsen, Program Coordinator/Associate Professor

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**Program Description:** A comprehensive program consisting of safety, proper use of hand and shop tools, fasteners, fuels, lubricants & coolants, 2 & 4 stroke engine theory, proper use of reference materials, and physical principles of engine operation. Includes electrical theory and proper diagnosis and repair of chassis harnesses, charging, starting, ignition & lighting systems. Fuels systems, including carburetion and fuel injection will be studied and worked on. Other engine systems including lubrication, cooling and exhaust systems will also be studied, discussed and worked on. The course is designed to give students the opportunity to learn all aspects of power equipment and motorcycle engines and their various manufacturers. The instructor will cover the book during class time and students will diagnose engine performance problems and repair them during lab time. Class will run from 9:00 AM till approximately 9:50 AM and lab time will be from 10AM till 1:50 PM daily.

**Career Opportunities:** The program offers students a wide range of career opportunities and career paths in an established and evolving motorcycle, power sports and outdoor power equipment repair industry. Job opportunities are available in, but not limited to: All-Terrain Vehicle Technician (ATV Technician), Custom Bike Builder, Motorcycle Mechanic, Motorcycle Service Technician, Motorsports Technician, Scooter Mechanic, and Small Engine Technician.

O.net: Motorcycle Mechanics 49-3052.00

O.net: Outdoor Power Equipment and Other Small Engine Mechanics 49-3053.00

**Gainful Employment** *(only required for Certificates of Completion)*:

**Transfer/Articulation Information**: As a result of the Transfer Articulation Review and Analysis document conclusion (page 10), this program revision is to improve articulation with other USHE institutions. http://i.slcc.edu/research/docs/transfer-articulation-review-and-analysis-20190822.pdf

**Estimated Cost for Students:**

Tuition and student fees: http://www.slcc.edu/student/financial/tuition-fees.aspx
Books: $280
Supplies: $ Based on personal projects worked on, school does provide projects at no cost.
Course Fees: $ None
Other (specify): $1,100 Tools for the program.

**Estimated Time to Completion:** Time to completion is 2 semesters based on a full-time minimum of 360-400 hours per semester. Less than program mapped hours per semester will increase the time to completion.

**Program Entry Requirements** (*if applicable)***:** N/A

**Specialized Program Accreditation:** (*if applicable)***:** N/A

# Salt Lake Community College
# PCO Curriculum and Learning Outcomes
# for Certificate of Proficiency (CP)

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**Program Title:** Power Equipment and Motorcycle Technology

**Credential**: Certificate of Proficiency (CP) **Total Cr:** 24

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## PROGRAM LEARNING OUTCOMES

**Program Student Learning Outcomes mapped to SLCC College-Wide Student Learning Outcomes.**

1. Acquire substantive knowledge
2. Communicate effectively
3. Develop quantitative literacies
4. Think critically & creatively
5. Become a community engaged learner
6. Work in a professional & constructive manner
7. Develop computer & information literacy
8. Develop lifelong wellness

| Program Learning Outcomes | SLCC CWSLO # |
|---|---|
| 1. Understand, recognize and maintain safety in the shop as well as personal work habits. | 1, 4, 6 |
| 2. Identify, use and differentiate between correct tools, including precision measuring instruments, understanding the appropriate tool for the situation. | 1, 4, 6 |
| 3. Identify, use and differentiate between correct fasteners, including sealants and gaskets, understanding the appropriate use, torque and tightening sequence for the situation. | 1, 2, 4, 6 |
| 4. Understand, describe and summarize the structure of an atom, the fundamentals of electricity and electrical circuits, the relationship of magnetism with electricity, and electrical system construction and operation, ignition, lubrication and cooling systems. | 1, 2, 4, 6 |
| 5. Understand, describe and summarize the principles of operation for two and four-stroke engines, and be able to differentiate the strengths of each style engine. | 1, 2, 4, 6 |
| 6. Understand, describe and summarize the purpose of all engine components including the design, materials and functions of those components. | 1, 2, 4, 6 |
| 7. Understand, describe and summarize measuring engine performance, including torque, horsepower, energy, and transmission and drive systems. | 1, 2, 4, 6 |
| 8. Identify and differentiate the choices of fuels and be able to describe and summarize the components of the fuel system from the tank to the engine. | 1, 2, 4, 6 |
| 9. Differentiate the benefits of carburetion and fuel injection systems, understanding the components and operating principles of each system. | 1, 2, 4, 6 |
| 10. Understand, describe and summarize the purpose of transmission and other drive systems. | 1, 2, 4, 6 |
| | |

See SLCC Assessment webpage for additional details about College-Wide Student Learning Outcomes

## REQUIRED COURSES (24 cr)

All course changes (title, credit, pre-req, semester taught, etc …) must be proposed on the CCO document.

| Prefix | Number | Title | Cr |
|---|---|---|---|
| TEPM | 1010 | Power Equipment Engine Fundamentals and Repair | 6 |
| TEPM | 1020 | Advanced Power Equipment Engine Systems and Repair | 6 |
| TEPM | 1030 | Power Equipment and Motorcycle Fundamentals | 6 |
| TEPM | 1040 | Motorcycle, Drive, Suspension & Steering Systems | 6 |
| | | | |
| | | **TOTAL:** | 24 |

**Utah System of Higher Education**
**Notification of Changes to Existing Academic Program**

| | | |
|---|---|---|
| **Institution Submitting Request:** | **Salt Lake Community College** | |
| | *Current* | *NEW (if applicable)* |
| **Program Title:** | **Motorcycle & Outdoor Power Equipment Technology** | **Power Equipment and Motorcycle Technology** |
| **Sponsoring School, College, or Division:** | **School of Technical and Professional Studies** | **School of Technical and Professional Studies** |
| **Sponsoring Academic Department(s) or Unit(s):** | **Aviation and Transportation Related Technology** | **Salt Lake Technical College** |
| **Classification of Instruction Program Code[1]:** | **47.0303** | **47.0611** |
| **Min/Max Credit Hours Required for Full Program:** | **30 cr /** | **24 credits /** |
| **Proposed Effective Term for Program Change[2]:** | **Summer 2024** | |
| **Institutional Board of Trustees' Approval Date:** | **06/12/2024** | |

**Award Type:** Certificate of Proficiency

| | |
|---|---|
| ☒ | Name Change of Existing Program |
| ☒ | Program Restructure with or without Consolidation |
| ☐ | Program Transfer to a new academic department or unit |
| ☐ | Program Suspension |
| ☐ | Program Discontinuation |
| ☐ | Reinstatement of Previously Suspended Program |
| ☐ | Out of Service Area Delivery Program -- *Attached Signed MOU* |

**Program Change Type (check all that apply):**

**Program Change Description/Narrative**

*Briefly describe program change. For program discontinuance or suspension, include teach out plan.*

SLCC is consolidating and moving the Motorcycle & Outdoor Power Equipment certificates (both completion and proficiency) into the *Power Equipment and Motorcycle Technology* certificate in Salt Lake Technical College at SLCC. This certificate will be situated with similar Salt Lake Tech programs, Automotive and Diesel Systems, with lower tuition rates for students, increased opportunities for community access, and offers better employability outcomes for our students in our service area. The certificates are currently taught in two, 16-week semesters using the 8-week blocks. The curriculum was redesigned into four, 8-week lecture/lab courses to even out the terms of study and support additional certificate teaching cycles.

**Chief Academic Officer (or Designee) Signature**:

I, the Chief Academic Officer or Designee, certify that all required institutional approvals have been obtained prior to submitting this request to the Office of the Commissioner.

1 For CIP code classifications, please see http://nces.ed.gov/ipeds/cipcode/Default.aspx?y=55.

2 "Proposed Effective Term" refers to term when change to program is published. **For Suspensions and Discontinuations,** "effective term" refers to the term the program will suspend admissions.

Rachel Divine Lewis, Associate Provost

Date: May 22, 2024

☒

I understand that checking this box constitutes my legal signature.

UTAH SYSTEM OF HIGHER EDUCATION

**Utah System of Higher Education**
Power Equipment and Motorcycle Technician
FY2026 / 24 Credits (720 Clock-Hours)

| **Power Equipment and Motorcycle Technician** | | | |
|---|---|---|---|
| Institutions: Salt Lake | | | |
| *Certificate of Program Completion (Catalog Year: 2026, 24 Credits/720 Clock-Hours Required, CIP: 47.0611)* | | | |
| **Aligned (24 Credits/720 Clock-Hours)** | | **Credits** | **Clock-Hours** |
| TEPM 1010 | Power Equipment Engine Fundamentals and Repair | 6 | 180 |
| TEPM 1020 | Advanced Power Equipment Engine Systems and Repair | 6 | 180 |
| TEPM 1030 | Power Equipment and Motorcycle Fundamentals | 6 | 180 |
| TEPM 1040 | Motorcycle, Drive, Suspension and Steering Systems | 6 | 180 |

**Utah System of Higher Education**
Power Equipment and Motorcycle Technician
FY2026 / 24 Credits (720 Clock-Hours)

## PROGRAM DESCRIPTION

This certificate is designed to give students the opportunity to learn all aspects of power equipment and motorcycle engines and their various manufacturers. Instruction will include theory and lab where students will diagnose engine performance problems and repair them.

Objectives:

- Recognize and maintain safety in the shop as well as personal work habits.
- Identify, use and differentiate between correct tools, including precision measuring instruments. Identify and use appropriate fasteners, gaskets, sealants, as well as torque and torque sequence.
- Identify, describe and summarize the structure of an atom, the fundamentals of electricity and electrical circuits, the relationship of magnetism with electricity, and electrical system construction and operation, ignition, lubrication and cooling systems.
- Identify, describe and summarize the principles of operation for two and four-stroke engines, and be able to differentiate the strengths of each style engine.
- Identify, describe and summarize the purpose of all engine components and their functions, as well as measuring engine performance including horsepower, toque, and energy output.
- Describe the benefits of carburetion and fuel injection systems along with their various components, as well as differentiate between different types of fuels.
- Identify, describe and summarize the purpose of transmission and other drive systems.

## ALIGNED COURSE DESCRIPTIONS

**Power Equipment Engine Fundamentals and Repair** **6 Credits/180 Clock-Hours**

Designed to give experience from all aspects of small engines. Theory and operation are reviewed from the textbook during class, and students will service and repair engines and machine systems during lab. Students complete work on two- and/or four-cycle engines. Safe shop practices and professional behavior will be emphasized. This course is part 1 of 2.

Objectives:

- Recognize and maintain safety in the shop as well as personal work habits.
- Identify different choices between fasteners, including sealants and gaskets. Demonstrate the appropriate use, torque and tightening sequence for the situation.
- Describe and summarize the structure of an atom, fundamentals of electricity and electrical circuits, relationship of magnetism with electricity, and electrical component construction and operation.
- Describe and summarize the principles of two and four-stroke engines and be able to identify the strengths of each.
- Identify the differences between carburetion and fuel injection systems, understanding the components and operating principles of each system.
- Identify and use correct tools, including precision measuring instruments.

**Advanced Power Equipment Engine Systems and Repair** **6 Credits/180 Clock-Hours**

Second half of PE Engine Fundamentals. Designed to give experience from all aspects of small engines. Theory and operation are reviewed from the textbook during class, and students will service and repair engines and machine systems during lab. Students complete work on two- and/or four-cycle engines. Safe shop practices and professional behavior will be emphasized. This course is part 2 of 2.

Objectives:

- Recognize and perform effective troubleshooting and preventative maintenance.
- Inspect and summarize the purpose of all engine components in the fuel, ignition, electrical, crankcase, cylinder camshaft and valve systems.
- Describe and perform effective engine reassembly and break-in process.
- Identify the purpose and become familiar with engines in their varieties of applications.

**Power Equipment and Motorcycle Fundamentals** **6 Credits/180 Clock-Hours**

Program consisting of safety, proper use of hand and shop tools, fasteners, fuels, lubricants and coolants, 2 and 4 stroke motorcycle engine theory, proper use of reference materials, and physical principles of engine operation. Course includes electrical theory and repair of chassis harnesses, charging, starting, ignition and lighting systems, and fuel systems. This course is part 1 of 2.

Objectives:

- Recognize and maintain safety in the shop as well as personal work habits.
- Identify, use and differentiate choices between correct tools, including precision measuring instruments, understanding the appropriate tool for the situation.
- Identify, describe and summarize the structure of an atom, the fundamentals of electricity and electrical circuits, the relationship of magnetism with electricity, and electrical component construction and operation.

**Motorcycle, Drive, Suspension & Steering Systems** **6 Credits/180 Clock-Hours**

A comprehensive program consisting of safety, proper use of hand and shop tools, motorcycle drive systems, steering and suspension, proper use of reference materials, and physical principles of engine and drive train operation. Course includes transmission and final drives, clutches, suspension, and braking systems from various manufacturers. This course is part 2 of 2.

Objectives:

- Recognize and maintain safety in the shop as well as personal work habits.
- Identify the purpose of suspension and steering system components including wheels, tires, brakes, shocks, forks, springs, and alignments.
- Describe and summarize the purpose of all transmission components including clutches and Final drive systems.
- Demonstrate the ability to perform routine maintenance and troubleshooting steps in diagnosing issues.

# TAB Q

Salt Lake Community College

# Emergency Management

Date: April 2, 2024
Sponsor: vice president Chris Martin

## Summary

Type of Review: 5-year

Last Board of Trustees Review: August 13, 2014

## Context

1. Changes / Revisions to Policy Section
    a. The revisions to the policy statement in section 1 are grammatical changes.
    b. No revisions were made to section 2.
2. Other Contextualization Factors
    a. The definitions and procedures were revised to eliminate extraneous historical information, improve comprehension, and clarify the importance of the Comprehensive Emergency Management Plan and Business Continuity Plans.

# 2.5.020
# Emergency Management Policy

Date of last board of trustees review: 2014

The originator of this policy is the associate vice president of Public Safety. Questions regarding this policy may be directed to the originator by calling 801-957-4571.

## 1. Policy

This policy provides the framework for Salt Lake Community College to protect the lives and property of its students, faculty, staff, and guests in the event of a major disruption, large scale emergency, or disaster. College emergency management efforts follow the fundamentals, best practices, and mandates established by the local, state, and federal emergency management agencies.

## 2. References

A. The Robert T. Stafford Disaster Relief and Emergency Assistance Act, 42 U.S.C. §§ 5121.

B. Emergency Management, Disaster Response and Recovery Act, U.C.A. §§ 53-2a-201—1305.

# 2.5.020

# Emergency Management Procedure

Date of last executive cabinet review: April 29, 2014

The originator of this procedure is the associate vice president of Public Safety. Questions regarding this procedure may be directed to the originator by calling 801-957-4571.

## 3. Definitions

A. All Hazards Approach: capabilities-based preparedness to prevent, protect against, respond to, and recover from natural, human-caused, and technological emergencies that may impact the college, communities, or the environment..

B. Business Continuity Plan (BCP): a document compiling the critical information an organization needs to continue operating during an unplanned event. The BCP states the essential functions of the business, identifies which systems and processes must be sustained, and details how to maintain them.

C. Comprehensive Emergency Management Plan (CEMP): the comprehensive set of plans, lists, and documents that define the succession of authority, group assignments, and response plans.

D. Declaration of Disaster: an official announcement that communicates to the college, state, and local officials that the college's normal functions and operations are interrupted and its resources are insufficient to meet demands resulting from the event.

E. Emergency: any event that disrupts normal college operations, such as, but not limited to, fires, floods, storms, earthquakes, hazardous materials incidents, large-scale power outages, civil disturbance, and acts of violence.

## 4. Procedures

A. Background

1. The college must develop comprehensive plans to manage emergencies at all campuses, sites, and facilities. This requires flexibility and creativity when considering the different methods for ensuring public safety during extraordinary events.

2. The Comprehensive Emergency Management Plan (CEMP) requires a multidisciplinary all hazards approach, including mitigation, preparedness, response, and recovery procedures for emergency management at the college.

B. Business Continuity Plan (BCP)

1. A critical component of the CEMP is the BCPs created by each college department. A BCP delineates the process and the individuals needed to restore the college to normal operations following a disruptive event.

2. Development of a BCP includes:

   a. conducting a business impact analysis to identify time-sensitive or critical business functions and processes and the resources that support them;

   b. identifying, documenting, and implementing steps needed to recover critical business functions and processes;

   c. organizing a business continuity team and compiling a BCP to manage a business disruption; and

   d. training, testing, and exercises to evaluate recovery strategies and the BCP.

C. Declaration of Disaster Process

1. Only the president or their designee may issue a disaster declaration.

2. The president shall delegate authority during their absence from campus, including management of the disaster declaration process.

3. Disaster Declarations must be made in writing and communicated publicly.

4. While it may not be necessary to have an actual written authority during a crisis, it is essential that units know who holds the authority to make decisions or sign official documents and who their alternate is.

D. Activation of the Comprehensive Emergency Management Plan

The Comprehensive Emergency Management Plan is activated in two ways.

1. The CEMP can be activated automatically. Should any of the campuses experience significant ground shaking due to an earthquake, emergency management team members must respond according to CEMP procedures.

2. The associate vice president of Public Safety or their designee may notify the vice president for Finance and Administration of an emergency or potential disaster and recommend activation of the CEMP.

E. Closure

1. The college president or their designee is the sole individual with the authority to direct the closure of college campuses, sites, and facilities.

2. Closure of the college during normal operational hours may be necessary, although closure is expected to be infrequent.

3. The college remains open when possible. Critical service levels and facilities may

continue to be operated, maintained, or expanded as appropriate.

F. Timely Notifications

When closure of the college during normal operational hours is directed or an emergency warrants it, the following procedures should be instituted to notify SLCC employees and students.

1. The college must provide timely advisories and notifications. Notification of any activity on or near any college site where the threat is not immediate or life-threatening is at the discretion of the president or their designee.
2. The college only issues emergency alerts if there is an imminent threat to the lives, safety, and property of the general college population.
3. Although almost all power outages are not life-threatening, if the president or their designee finds it necessary, a college alert will be sent out if a power outage lasts, or is expected to last, a significant amount of time.

# TAB R

Salt Lake Community College

# Tuition Benefits

Date: April 2, 2024
Sponsor: vice president Chris Martin

## Summary

Type of Review: early 5-year review

Last Board of Trustees Review: January 13, 2021

## Context

Utah System of Higher Education (USHE) Policy R824, Tuition Remission Benefits, uses the term "remission." The SLCC Tuition Benefits Policy has been revised to align with R824 and USHE's terminology for student waivers versus employee tuition remission benefits.

1. Changes / Revisions to Policy Section
    a. The term "waiver" has been replaced by "remission" in the policy statement (section 1).
    b. In section 2, a reference was added for R824, Tuition Remission Benefits.
2. In the Procedures Section, definitions were added and revised, a hyperlink to the domestic partner affidavit was incorporated, section 4.B was revised to clarify benefits, and references to "Workforce Training & Education" were corrected.

# 4.1.140
# Tuition Benefits Policy

**Date of last board of trustees review: January 13, 2021**

**The originator of this policy is People & Workplace Culture. Questions regarding this policy may be directed to the originator by calling 801-957-4210.**

## 1. Policy

It is the policy of Salt Lake Community College to provide tuition remission benefits to all qualified employees, retirees, the board of trustees' members, and the dependents of each.

## 2. References

A. Tuition Waiver and Scholarship, Utah Code Ann. §§ 53B-8-101 et. seq.

B. Employee Benefits, Utah System of Higher Educ., r. 821-3.8.

C. Tuition Remission Benefits, Utah System of Higher Educ., r. 824.

# 4.1.140
# Tuition Benefits Procedure

**Date of last executive cabinet review: October 27, 2020**

**The originator of this procedure is People & Workplace Culture. Questions regarding this procedure may be directed to the originator by calling 801-957-4210.**



## 3. Definitions

A. Course Fees: as defined in the Course and Program Fees Policy.

B. Student Fees: as defined in the Student Fees Policy.

C. Tuition remission: a waiver of tuition charges for employees and dependent members of their families who enroll in classes at the College. Some fees may apply (see section 4.B.1).

See Personnel Definitions

## 4. Procedures

A. Eligibility

1. Full-time employees and their dependents are eligible immediately upon employment.
2. Members of the board of trustees and their dependents are eligible upon the board members' appointments.
3. Adjunct faculty members and one of their dependents are eligible after the faculty member has:
    a. finished teaching their first semester or equivalent; and
    b. an active teaching assignment for the semester for which the tuition remission is being submitted.
    c. Adjunct faculty members do not need an active teaching agreement for themselves or their dependent to be eligible for a summer semester tuition remission.

4. Part-time hourly employees are eligible after two years of consecutive employment.
5. Work-study students do not qualify for this benefit.
6. Retirees of the college and their dependents are eligible if the retiree has completed ten or more years of full-time service preceding retirement.
7. Eligible dependents include:
    a. a legal spouse;
    b. a domestic partner; and
    c. natural or legally adopted children under the age of twenty-six, including the children of an employee's spouse or domestic partner, and the children for whom the employee has legal guardianship.
8. Persons falling into more than one category will receive the most generous benefits for which they are eligible.

B. Benefit

1. Tuition remission covers the full cost of tuition for all eligible individuals in degree-seeking and Salt Lake Technical College programs, whether resident or nonresident. Utah residency requirements can be found here. Before the tuition due date, individuals registered for courses must pay special fees, such as laboratory fees, course texts, and other expenses. Late fees and collection fees will apply to accounts with delinquent balances.
2. Employees and dependents are identified as residents for tuition remission purposes.
3. Full-time employees may register for 11 credit hours per semester, and the tuition remission includes student fees.
4. Dependents of full-time employees may register for classes without course load or schedule restrictions. They will be required to pay student fees.
5. Retirees and dependents of retirees may register for classes without course load or schedule restrictions. They will be required to pay student fees.
6. Adjunct faculty members and one dependent and part-time employees may register for one course of study not to exceed six credit hours per semester. They will be required to pay student fees.
7. Workforce Training & Education
    a. Continuing education courses taken for credit are included, provided the

minimum enrollment for the class is met. Workforce Training & Education sets minimum enrollment levels.

b. For noncredit continuing education courses, Workforce Training & Education offers a 20 percent tuition discount for eligible persons.

c. Courses offered in partnership with a third-party vendor may not be eligible. Contact Workforce Training & Education for information.

8. Employees who terminate from the college and their dependents who are registered for classes may finish the semester.

C. Approval Process

1. The tuition remission approval process guides for requestors and approvers are on the PWC's Human Resources Forms web page.

2. Employees who wish to take courses during regular work hours will need written approval from their immediate supervisor.

a. Employees who miss regular work hours for class attendance must make up these hours on an approved schedule prearranged with their immediate supervisor.

b. Employees may not substitute rest breaks and office consultation hours for the class time taken during regularly scheduled work hours.

3. Employees who are required by their supervisor to attend a class during working hours are not required to make up the time.

# TAB S

Salt Lake Community College

# Drug and Alcohol Free Workplace

Date: March 29, 2024
Sponsor: vice president Chris Martin

## Summary

Type of Review: 5-year

Last Board of Trustees Review: circa 2007

## Context

This policy's title has been changed from “Drug Free Workplace” to “Drug and Alcohol Free Workplace.” It complies with SLCC’s Employee Conduct Policy, 49 CFR § 655 (“Prevention of Alcohol Misuse and Prohibited Drug Use in Transit Operations”), 49 CFR Part 40 (“Procedures for Transportation Workplace Drug and Alcohol Testing Programs”), the Utah Medical Cannabis Act, and applicable federal laws.

1. Changes / Revisions to Policy Section
    a. Section 1 was significantly revised for clarity. This policy statement clarifies that the policy applies to all employees.
    b. Section 2 was expanded to include multiple new references to state and federal laws.
2. The Procedures Section was significantly revised and reorganized.

# 4.4.020
# Drug and Alcohol Free Workplace Policy

**Date of last board of trustees review: 2007**

**The originator of this policy is People & Workplace Culture. Questions regarding this policy may be directed to the originator by calling 801-957-4210.**

## 1. Policy

Salt Lake Community College aims to maintain a productive workforce, provide a drug-free workplace, and follow federal and state laws. The college prohibits all employees from manufacturing, distributing, possessing, using, or being under the influence of alcohol or an illegal controlled substance on college campuses and sites while performing work duties, including college grants and contracts.

The college encourages employees with substance abuse issues to utilize the health support available through various college and community resources.

The college does not restrict the lawful use of alcohol off college campuses, sites, or during off-campus social events. The college does permit alcohol at some college events in compliance with the president's cabinet-published rules.

## 2. References

A. Safe and Drug-Free Schools and Communities Act, 20 U.S.C §§ 7101—7294.

B. Controlled Substances Act, 21 U.S.C. §§ 801—971.

C. Drug Free Workplace Act, 41 U.S.C. § 81.

D. Americans with Disabilities Act, 42 U.S.C. §§ 12101—12213.

E. Omnibus Transportation Employee Testing Act, 49 App. U.S.C.A. § 1434.

F. Government Records Access and Management Act (GRAMA), Utah Code Ann. §§ 63G-2-101—901.

G. Prevention of Alcohol Misuse and Prohibited Drug Use in Transit Operations, 49 C.F.R. § 655.

H. Procedures for Transportation Workplace Drug and Alcohol Testing Programs, 49 C.F.R.

§ 40.

I. Utah Medical Cannabis Act Utah Code §26-61a-101.

J. Fleet Operations, Utah Administrative Code R27-7-3.

Salt Lake Community College

# 4.4.020
# Drug and Alcohol Free Workplace Procedure

**Date of last executive cabinet review: March 7, 2007**

**The originator of this procedure is People & Workplace Culture. Questions regarding this procedure may be directed to the originator by calling 801-957-4210.**



## 3. Definitions

A. Negative Result: the result reported by an HHS-certified laboratory to a Medical Review Officer when a specimen contains no drug or the concentration of the drug is less than the cutoff concentration for the drug or drug class, and the specimen is a valid specimen.

B. Positive Result: the result reported by an HHS-certified laboratory when a specimen contains a drug or drug metabolite equal to or greater than the cutoff concentrations.

C. Safety-Sensitive Position: a position that involves some aspect of a heightened danger that requires an employee's full and unimpaired skills and judgment to execute their job safely. These include Commercial Driving faculty, Health Sciences faculty, and employees who use a commercial driver's license (CDL) for their employment duties.

D. Test Results: the final result of a drug test, e.g., negative, positive, or invalid.

See Personnel Definitions

## 4. Procedures

A. General Testing Information

1. The college uses certified, qualified testing companies to complete the drug and alcohol testing ("testing") required by this policy.

2. Some departments have specific drug and alcohol testing policies in addition to this policy due to the nature of their programs.

3. Test Results and Employee Notification

a. If pre-employment testing is required for a prospective employee, after the testing is completed and the college has received the test results, People and

Workplace Culture ("PWC") will notify the hiring manager of the test results. For positive test results, the senior director of PWC will consult the hiring manager to determine the appropriate course of action.

b. If an employee is selected for random testing, for positive random test results, Risk Management will notify the employee's supervisor of the test results.

4. Reporting and Record Keeping

a. The college submits all required reports and maintains testing records according to applicable law.

b. Departments with safety-sensitive positions may keep confidential testing results separate from personnel records for accreditation and safety purposes.

5. Refusal to Test

a. As a condition of continued employment, the college may require employees to participate in testing.

b. The college will treat a refusal as a positive test.

c. The college takes corrective action for any employee who refuses to take a test.

B. Types of Testing

1. Pre-Employment Testing

The college may require a drug test upon a conditional offer of employment or agreement of service for certain safety-sensitive positions.

2. Post-Accident Testing

a. Employees involved in an accident while on college business, whether driving a state vehicle or any other vehicle, must report the accident to Fleet Services immediately.

b. After receiving notification that an accident has occurred, Fleet Services will inform Risk Management immediately.

c. Risk Management will arrange post-accident testing as necessary.

d. For Vehicle Accidents Where Law Enforcement Investigates

(1) Each surviving employee involved in an accident will, as soon as possible, undergo post-accident testing for any controlled substances or alcohol following federal Department of Transportation ("DOT") regulations or if any of the following conditions are present:

(a) a citation is given to anyone involved;

(b) a vehicle is disabled in the accident; or

(c) the accident results in any passenger(s) or pedestrian injuries or fatalities.

(2) Any employee who does not remain available for post-accident testing will be determined to have refused to submit to testing.

(3) If the employee leaves the accident scene, the employee must advise their supervisor of their location.

(4) The college does not require employees to delay necessary medical attention for injured persons following an accident or prohibit an employee from leaving the scene of an accident for a period necessary to obtain emergency medical care.

e. For all other vehicle accidents, if the driver is suspected of driving under the influence of alcohol or a controlled substance, see section 4.B.3 of this policy for reasonable suspicion testing procedures.

3. Reasonable Suspicion Testing

a. All college employees are subject to reasonable suspicion testing.

b. The college is not required to give an employee advance notice to request testing when the request is based on reasonable suspicion.

c. College supervisors with positions that engage with reasonable suspicion testing must undergo college-approved related training at least annually.

d. A supervisor who has undergone reasonable suspicion testing training must initiate reasonable suspicion testing when the supervisor, in consultation with Employee Relations, determines that there is reasonable suspicion to warrant a test. The decision must be based on specific, documentable, contemporaneous observations outlined in the reasonable suspicion testing training.

e. Supervisors must consult Employee Relations and the Environmental Health and Safety (“EHS”) manager in the decision to arrange a reasonable suspicion test. If the EHS manager is unavailable, supervisors must contact the senior director of PWC or Risk Management.

f. A supervisor must move an employee in a safety-sensitive position who is tested to non-safety-sensitive duties or on administrative leave until results from the test are available.

g. An employee who tests positive may be subject to corrective action, up to and including termination.

h. Conducting Substance Testing Based on Reasonable Suspicion

(1) The test should be administered within two hours of the decision to test the employee. If the test is not administered within eight hours from that time, all attempts to administer the test must stop.

(2) The employee in question must not drive themselves to the lab. The EHS Manager, Public Safety, or the employee's supervisor will drive them to the lab for testing.

(3) The college may require the initial or further testing to occur at an authorized testing facility at the college's discretion.

C. Medical Cannabis

1. The Utah Medical Cannabis Act allows for controlled use of medical marijuana in Utah. However, the federal law prohibiting marijuana preempts state laws attempting to legalize the drug.

2. Under federal law, using, possessing, or distributing marijuana remains a crime under the federal Controlled Substances Act.

3. SLCC receives considerable federal funding. The college's receipt of federal funds, e.g., student loans, grants, etc., is conditioned upon SLCC's compliance with the federal Drug-Free Schools and Communities Act and the federal Drug-Free Workplace Act,

4. These acts require the college to adopt and implement a program that prevents the possession, use, or distribution of federally controlled substances, including marijuana.

5. Despite the passage of the Utah Cannabis Act, the college must continue to prohibit faculty, staff, and members of the public from possessing, using, or distributing marijuana or THC in any form on college campuses and facilities and during any college activities.

6. College faculty and staff who violate this policy will be subject to corrective action, including expulsion from the college and termination of employment.

D. Duty to Report Alcohol and Drug Law Charges and Convictions

1. Existing employees and volunteers must report criminal convictions, arrests, or criminal charges in any form initiated by any governmental authority. This report must be provided to their Supervisor and Employee Relations within five business

days, consistent with the SLCC Employee Conduct Policy.

2. After receiving a report from an employee, supervisors must:

    a. immediately notify the executive director for the Office of Sponsored Projects and include the date the employee notified the supervisor if the employee is engaged in the performance of a federal grant or contract; and

    b. notify Driver Safety within 2 business days if the employee has college driving privileges.

3. The executive director for the Office of Sponsored Projects must notify the appropriate federal agency within 10 calendar days of the date the employer is notified of the conviction.

4. The college may suspend or revoke an employee's employment-related driving privileges for up to 3 years if they are convicted of a substance-related violation. To regain driving privileges, convicted employees must also meet all court-imposed requirements and related suspension periods.

E. College-Identified Substance Assistance or Rehabilitation Programs

1. For a Conviction

    a. The college may require an employee convicted of violating an alcohol or drug law to participate in an alcohol or drug assessment.

    b. The college will select a licensed agency or clinic to complete the assessment.

    c. If recommended by the alcohol or drug assessment and approved by the supervisor, the college may require the employee to participate in and complete a substance abuse assistance or rehabilitation program or both. The supervisor must consult with Employee Relations before making this determination.

    d. The college may administer corrective action up to and including termination of employment instead of an assessment.

2. For Substance Abuse-Related Substandard Performance

    a. The college may offer an option for an employee with a substance-related deficiency in conduct or performance to participate in a substance abuse program instead of corrective action.

    b. The college may require an employee who exhibits substance-related conduct or performance deficiencies to participate in and complete a substance abuse program.

    c. The college may identify employees to qualify for a college-identified

rehabilitation program through reasonable suspicion testing in section IV.B.3 of this policy or through employees self-reporting to their supervisor or Employee Relations.

d. Supervisors must notify Employee Relations within 2 business days of any employee self-reports they have received.

3. Assistance or Rehabilitation Programs Agreement

a. Where substance abuse programs are required, PWC will represent the college in providing the employee with a written agreement signed by both parties. If the employee refuses to sign, the employee may be subject to corrective action.

b. The agreement must state:

(1) the required work-related standards of conduct or performance provided by the employing department;

(2) the name and location of the substance abuse program; and

(3) the employee is subject to corrective action or termination if the employee does not complete the program.

F. Substance Abuse Self-Reporting for Safety-Sensitive Positions

1. The college may refer an employee in a safety-sensitive position who self-reports alcohol or controlled substance misuse and requests college assistance with treatment to a substance abuse professional ("SAP").

2. The college will immediately remove the employee from safety-sensitive duties until the SAP clears the employee and the supervisor approves them for reinstatement.

G. Commercial Driver's License ("CDL") Operators

1. The college prohibits employees with CDL operator responsibilities ("CDL employees") from:

a. reporting or returning to work within four hours after using alcohol;

b. using or possessing alcohol or any controlled substance on the job;

c. reporting for and remaining on duty when the employee is under the influence of or has used any controlled substance;

d. testing positive for a controlled substance; or

e. refusing to submit to an alcohol or controlled substance test as federal law requires.

2. Testing CDL Employees

    a. The college selects certified, qualified testing companies and breath alcohol technicians to complete testing according to DOT regulations.

    b. The college may require CDL employees to complete the initial or further testing at an authorized facility at the college's discretion.

    c. The college conducts random alcohol and drug testing following the federal DOT regulations and this policy.

    d. Supervisors must move CDL employees who have failed a substance test to non-safety-sensitive duties or on administrative leave until they can return to a safety-sensitive function.

    e. CDL employees who have failed a substance test must comply with DOT return-to-duty regulations before being allowed to return to a safety-sensitive function.

    f. The college will immediately remove from duty any CDL employee who refuses to submit to a required alcohol or drug test.

    g. If an SAP identifies a CDL employee who is not part of a college-identified substance assistance or rehabilitation program as needing assistance to resolve substance abuse problems, the CDL employee will be subject to unannounced follow-up tests as determined by the SAP.

3. Penalties

    a. If a CDL employee tests positive on an alcohol test, the college will comply with appropriate DOT regulations and may pursue corrective action.

    b. CDL employees who test positive for a controlled substance for their first offense must submit a urine specimen with a negative result before returning to a safety-sensitive position. The college will refer these employees to an SAP.

    c. CDL employees who test positive for a controlled substance for a second offense within three years are subject to corrective action, which may include termination. The college will refer these employees to an SAP.

# TAB T

# Conflict of Interest, External Employment, and Consultation

Date: March 29, 2024
Sponsor: vice president Chris Martin

## Summary

Type of Review: 5-year

Last Board of Trustees Review: circa 2016

## Context

The Conflict of Interest, External Employment, and Consultation policy has been reorganized and significantly revised. During the revision process, this policy was posted for 15-day review in February 2024 and received over 30 comments.

1. Changes / Revisions to Policy Section
    a. The policy statement (section 1) was rewritten for clarity and conciseness.
    b. Two references were added to section 2: the Utah Protection of Public Employees Act and the Utah Procurement Code.
2. Other Contextualization Factors
    a. Faculty and Staff commented extensively on the importance of the consultations section.
    b. There will be two new forms to support this policy and the procedures: a Conflict of Interest Disclosure Form and a Consulting Request Form.

# 4.4.010
# Conflict of Interest, External Employment, and Consultation Policy

Date of last board of trustees review: circa 2016

The originator of this policy is People & Workplace Culture. Questions regarding this policy may be directed to the originator by calling 801-957-4210.

## 1. Policy

Employees must avoid actual, potential, and apparent conflicts of interest to ensure confidence and trustworthiness in the College's administration and stewardship of public resources. This policy creates standards and procedures employees must comply with to avoid conflicts of interest.

## 2. References

A. Utah Public Officers' and Employees' Ethics Act, Utah Code Ann. §§67-16-1-15 (2014)

B. Utah Protection of Public Employees Act, Utah Code Ann. §§67-21-3 (2018)

C. Utah Procurement Code, Utah Code Ann. §§63G-6a-24 (2014)

# 4.4.010
# Conflict of Interest, External Employment, and Consultation Procedure

Date of last executive cabinet review: September 13, 2016

The originator of this procedure is People & Workplace Culture. Questions regarding this procedure may be directed to the originator by calling 801-957-4210.

## 3. Definitions

A. Conflict of Commitment: a situation in which an employee's non-college activities, paid or unpaid, interfere with the performance of their college duties. Employees are expected to perform their obligations to the college with adequate competence, diligence, and reliability.

B. Controlled Information: contains medical, psychiatric, or psychological data about an individual.

C. Principal Investigator ("PI"): internally approved and qualified college employee responsible to develop and oversee a sponsored project.

D. Private Information: generally relates to an individual's private interests, and disclosing such to the public would constitute a clearly unwarranted invasion of privacy.

E. Protected Information: covers various information, including trade secrets and knowledge that would impair governmental procurement proceedings. See Utah Code Ann. § 63G-2-3 for a detailed list.

F. Sponsored Project: project supported by a governmental entity or an organization using public resources in support of research, instruction, capacity development, training, or other strategic, developmental, or scholarly activity.

G. Substantial interest: the ownership, either legally or equitably, by an individual, their spouse, or their minor children, of at least 5% of the outstanding capital stock of a corporation or a 5% interest in any other business entity.

See Personnel Definitions

## 4. Procedures

A. General

1. Employment Conditions

   Each college employee is expected to:

   a. perform their obligations to the college with adequate competence, diligence, and reliability; and

   b. avoid any activity or work pattern that lowers productivity and effectiveness.

2. Conflict of Interest Prohibition and Disclosure

   a. All employees are prohibited from any conduct that creates actual, potential, or apparent conflicts of interest between the College and the employee.

   b. Employees must disclose in writing all actual, potential, and apparent conflicts of interest or commitment or manage to eliminate such conflicts as provided in this policy.

   c. After disclosure of an actual, potential, or apparent conflict of interest to the supervisor and appropriate vice president, an employee may only participate in the college transaction or business if there is written authorization from the appropriate vice president.

3. When a supervisor makes a determination regarding a conflict of interest or commitment concern with an employee, the supervisor must notify People & Workplace Culture (Employee Relations) of the situation and any decisions.

B. Types of Conflicts of Interest

1. Business Dealing with the College

   a. An employee who owns a substantial interest in a commercial or private business or organization must not represent or influence the college in its dealings with that organization.

   b. In such cases, the employee must disclose in writing to their supervisor and appropriate vice president the nature of the conflict of interest; and

   c. The supervisor shall take appropriate precautions to ensure that such relations do not influence the college's business dealings.

2. Purchase of Surplus Property

   If an employee participated in the college's decision to sell surplus property:

   a. the employee must not purchase that surplus property; and

b. no other person or organization through whom the employee may benefit personally shall purchase the surplus property.

3. Inside Information

   a. Employees must not use or disclose private, controlled, or protected college information ("confidential") acquired in connection with the employment for personal gain or other unauthorized use.

   b. Confidential information includes, but is not limited to, information obtained in advance of public announcement, such as:

      (1) personnel records;

      (2) knowledge of forthcoming programs;

      (3) site selections; or

      (4) selection of contractors.

4. Gifts and Personal Privileges

   a. Gifts

      (1) As a condition of granting any application, request for a contract, approval, or other authorization, an employee may not

         (a) Demand from any person or organization that property, money, or services be donated to the college, employee, or agency;

         (b) Donate or offer to donate property, money, or services to the college, employee, or agency; or

         (c) Knowingly receive, accept, take, seek, or solicit, directly or indirectly, any gift or loan for themselves or family members if:

            (i) it would tend to improperly influence a reasonable person in the discharge of college responsibilities or duties; and

            (ii) the employee has been, currently is, or in the near future may be involved in any college action or decision directly affecting the donor or lender.

      (2) An employee may accept an occasional nonmonetary gift provided the value is at most $50.

   b. Personal Privileges

Employees must not use, or attempt to use, their college authority or position to:

(1) coerce students and subordinate employees to substantially further their economic interests;

(2) secure privileges not available to all college employees from outside organizations or persons; or

(3) receive personal discounts for on-site college services not equitably available to other college employees.

5. Research Projects Serving External Interests

   a. An employee must disclose in writing to their supervisor if they:

      (1) are engaged in research or other projects within both the college and other organizations; or

      (2) have a private business interest relevant to the research project and act as the principal investigator in a sponsored project or research grant contract administered by the college.

   b. Upon receiving the written disclosure, the supervisor must evaluate the research projects':

      (1) use of college facilities, employees, equipment, supplies, and funds; and

      (2) efforts to maintain the separation of the college and the organization's interests.

   c. If the research project involves college data or the supervisor identifies potential, actual, or apparent conflicts in their evaluation, the research project will require approval from the appropriate vice president or provost.

   d. Before deciding if the research project will be approved, the vice president or provost may consult with the executive director for Sponsored Projects, General Counsel, and the Controller.

6. College Opportunities and Affiliations

   a. Disclosure of Opportunities with Potential for Employee Personal Gain

      If an employee, during their course of employment, learns of a financial, research, or other opportunity that the college might reasonably be expected to have an interest in, the employee:

      (1) must disclose the opportunity to their supervisor and appropriate vice

president; and

(2) refrain from usurping the opportunity for their personal gain or interest.

b. College Affiliation for Private Projects

An employee may not use their college affiliation to provide creditability or obtain material support for a private project without the prior approval of the vice president for Institutional Advancement.

7. Actions or Circumstances Compromising an Employee's Commitment to the College

a. Any employee action or involvement in circumstances which creates a reasonable basis that they have compromised their commitment to the college; and

b. this conflict of interest cannot be satisfactorily managed with appropriate supervisory oversight.

C. External Employment, Consultation, and Other External Activity

1. General

When evaluating all external activities, employees and supervisors shall consider the following factors in their evaluation of the activities' desirability and risk:

a. actual or potential conflict of commitment;

b. actual or potential conflict of interest which may adversely impact the employee's allegiance to the college;

c. appearance of a conflict of interest or inappropriate appearances; and

d. activity that is inconsistent with the college's mission, vision, values, and goal.

2. External Employment and Commitments

a. All full-time faculty and staff must fulfill their obligations to the college with competence, diligence, and reliability during scheduled work periods.

b. External employment requests for non-college positions that could create a conflict.

(1) Employment in a non-college position is not permitted if it:

(a) interferes with the employee's college duties and schedule; or

(b) results in an actual, potential, or apparent conflict of interest.

(2) Before accepting or performing external employment that could create a conflict as outlined in sections 4.C.2.a and 4.C.2.b.(1) of this policy, an employee must disclose the external employment to their immediate supervisor and receive written approval from their immediate supervisor.

c. Evaluation of external employment requests.

(1) When evaluating external employment requests, the immediate supervisor must evaluate:

(a) the criteria outlined in section 4.C.1 in this policy; and

(b) if necessary, consult with the associate vice president for People and Workplace Culture or designee.

(2) If the immediate supervisor denies the external employment request, the denial may be appealed to the employee's second-level supervisor.

d. Section 4.C.2 prohibiting external commitment does not apply to college employees who work:

(1) in the college's Development Office and provide, in the normal course of their duties, assistance to the Salt Lake Community College Foundation, Inc.; or

(2) in the Arts and Communication department and provide, in the normal course of their duties, assistance to the Grand Theatre Foundation, Inc. or Grand Theatre Community Institute.

3. Internal Consultations

a. Consultation may take place in the employee's place of work with approval from their immediate supervisor if it does not interfere with the normal operations of the department.

b. The employee must arrange in advance, with the approval of the responsible supervisor, any schedule changes or coverage of missed work duties as the result of consultation activities.

4. External Consultations

a. Employees may provide consultation services to external persons and organizations provided such services do not interfere with the employee's college duties and schedule or create a conflict of commitment. Such consultation is considered acting in an advisory capacity, generally for a short time.

b. Employees can consult up to five consecutive business days at any one time but cannot exceed 24 days in one fiscal year.

c. Consultation Process and Requirements

(1) Employees must submit a Consulting Request form and receive approval from their immediate supervisor and appropriate vice president before accepting or performing external consulting employment that occurs:

(a) during regular working hours for staff; or

(b) on contract days for faculty.

(2) Employees must advise the person, firm, or agency for whom such consultation services are to be performed that:

(a) the employee is an independent contractor and not an agent or employee under the college's control while performing consulting activities; and

(b) the college has no express or implied responsibility for the actions or omissions of the employee in their role as a consultant.

(c) Such advisement by the employee will be indicated on the Consulting Request form.

(3) Employees must indicate the nature of the consulting, the consultation times and dates, and verify on the Consulting Request form that:

(a) these arrangements will not involve a conflict of commitment or a conflict of interest; and

(b) the employee agrees to comply with this policy and procedures.

(4) Consultation for an external person or organization is not permitted if it:

(a) interferes with the employee's college duties and schedule;

(b) the employee has not made advance plans for an acceptable, qualified replacement; or

(c) results in an actual, potential, or apparent conflict of interest.

(5) Employees must take vacation or other applicable leave for approved consultations that occur:

(a) during regular working hours for staff; or

(b) on contract days for faculty.

5. Faculty Authored Commercialized Course Materials

   Faculty who want to require students in a course they are teaching to purchase a commercialized work from which the faculty will receive royalties must obtain prior approval from the provost or their designee.

# TAB U

# Weapons

Date: April 5, 2024
Sponsor: vice president Chris Martin

## Summary

Type of Review: 5-year

Last Board of Trustees Review: circa 2019

## Context

The policy is intentionally vague in defining a dangerous weapon or providing examples of dangerous weapons. Instead, the policy cites statutes so that the college does not rely on our own interpretation as statutes change.

All revisions to the policy and procedures sections are stylistic and technical, specifically to sections 4.A and 4.C, and no changes were made after the 15-day comment period.

# 2.5.050
# Weapons Policy

**Date of last board of trustees review: circa 2019**

**The originator of this policy is the associate vice president for Public Safety. Questions regarding this policy may be directed to the originator by calling 801-957-4571.**

## 1. Policy

Salt Lake Community College enforces state law regulating weapons on campus. Possession or use of weapons while upon properties owned, leased, or controlled by the college or where college activities occur, including surrounding areas such as sidewalks, driveways, and parking lots, is prohibited, except for authorized law enforcement officers and persons exempt under Utah State law. Because weapons are capable of inflicting serious injury and pose a clear risk to persons and property, violations of this policy may result in suspension or termination from the college and prosecution under appropriate laws.

## 2. References

Weapons, Utah Code Ann. § 76-10-5.

Salt Lake Community College

# 2.5.050

# Weapons Procedure

Date of last executive cabinet review: October 2, 2018

The originator of this procedure is the associate vice president for Public Safety. Questions regarding this procedure may be directed to the originator by calling 801-957-4571.

## 3. Definitions

Weapons: Firearms, knives, explosives, or other objects that, in the manner of their use or intended use, are capable of causing death or serious bodily injury.

## 4. Procedures

A. Violations

Possession or use of any unauthorized weapon on college property or during college activities violates this policy. Such violation may result in disciplinary action up to and including suspension or termination from the college and prosecution under appropriate local, state, or federal laws.

B. Individual Exceptions

Prior specific written permission from the college's department of Public Safety to bring any weapon on campus may be obtained for certain educational, instructional, or authorized activities or legitimate purposes, such as class projects, class demonstrations, or displays of antique firearms or art objects.

C. Program Exceptions

Some students or instructors regularly use tools that fall under the definition of weapons. When applied directly to a legitimate use in college programs, such tools are exempt from this policy. Questions are to be directed to the college's department of Public Safety.

# TAB V

# Background Checks

Sponsor: Vice President Chris Martin
Date: February 22, 2024

## Summary

This is a new policy.

## Context

This is a new policy. The policy and procedure have been developed to codify existing practice and ensure compliance with Utah Code §§ 53B-1-110. A primary concern from the college community was related to requiring of background checks for adjunct instructors. Adjuncts are included in the policy due to concurrent enrollment and other instruction that may include teaching minors.

# Background Checks Memorandum

To: Salt Lake Community College Executive Cabinet, via vice president Chris Martin
From: Rick Enyard, associate vice president – policy originator
Jen Hughes, policy coordinator
Steve Gordon, assistant attorney general
Subject: 4.4.070 Background Checks Policy – second memo
Date: February 22, 2024

## Introduction

On January 9, 2024, the Background Checks policy was posted for the 15-day review period; on January 25, the comment period ended. Over 40 comments were received. This memorandum also provides a legal review of the draft policy.

## Comments Received and Responses

Comment: Does an employee or volunteer need to be of legal age, 18, to have a background check submitted?

> Response: An employee or volunteer does not need to be 18. Our vendor can perform background checks for individuals under the age of 18.

Comment: Clarify why definitions are embedded in the policy and then also in the hyperlinked personnel definitions webpage. Commenters find this problematic in terms of use and think definitions should have to go through the policy review process.

> Response: Whether or not the relevant definitions within the Personnel Definitions webpage should be included within college policies is outside the purview of this policy committee. This decision would involve a larger conversation as this would impact multiple policies at the college.

Comment: Utah Code §53B-1-110(3)(b) does not require that background checks be conducted for adjunct faculty positions. Why are we requiring adjunct faculty to undergo a background check? (4.A.1)

> Response: Board of Higher Education Policy R847, Criminal Background Checks, specifically addresses the need for concurrent enrollment faculty and anyone at the college working with minors to undergo background checks. The process for assigning concurrent enrollment students who are minors to course sections has changed. As a result, PWC and the appropriate Associate Deans cannot identify which adjunct or otherwise faculty will be teaching minors until after the course has begun.

Comment: What is the purpose of running background checks on existing employees every three years? Why three years and not five years? (4.B.1) Clarification for 4.B.2. There is confusion about when existing employees "must" submit to a background check.

> Response: Section 4.B was revised to clarify these concerns. "Existing full-time and part-time employees and full-time faculty must undergo background checks every five years during employment." (4.B.1). 4.B.2.c was removed.

Comment: What happens if an existing employee refuses to consent to a background check? Could that employee be suspended from their employment or receive corrective action? (4.B.2)

> Response: The employee could receive corrective action as they would be violating policy. Section 4.B.5 has been added, stating, "Existing employees who refuse to consent to a background check could receive corrective action."

Comment: In section 4.B.4, who is the president's "designee?" Consider revising.

> Response: 4.B.4 has been revised to state, "An existing employee must submit to a background check, where PWC finds that reasonable cause exists."

Comment: For existing employees, will a consent form for a background check be required each time an employee has a background check? (4.D)

> Response: A consent form is required each time an employee has a background check. This is done electronically through the third-party agency conducting college background checks. As the third-party agency could change, a hyperlink was not added to the policy.

Comment: Multiple commenters expressed concern over section 4.C, Criminal Convictions, potentially creating barriers and hardship for employees.

> Response: The policy has been revised to state, "Existing employees and volunteers must report criminal convictions, arrests, or criminal charges in any form initiated by any governmental authority. This report must be provided to their Supervisor and Employee Relations within five business days."

Comment: Can a background check be done earlier in the hiring process, especially for hiring faculty? How long does it take to complete a background check?

> Response: We only conduct background checks for those identified as the final candidate. The length of time depends on where the candidate has lived. Usually, it takes about two days to receive the background check results.

Comment: 4.E.2 appears to contradict 4.E.1. Why are we including 4.E.2?

> Response: This section has been removed from the policy.

Comment: Suggestion to add a section stating that the college must provide written notice that a background check has been requested per Utah Code §53B-1-110(4).

Response: This is addressed in 4.D, which states, "PWC shall obtain signed consent for a background check for candidates for employment, existing employees, or volunteers." Currently, this is done electronically.

Comment: 4.F.2. seems to state that a third-party agency can conduct a fingerprint background check when needed. Utah Code §53B-1-110(5)(b) only allows the Utah Bureau of Criminal Investigation and the Federal Bureau of Investigation to conduct a fingerprint background check. Consider deleting section 4.F.2.

Response: No changes were made to the policy. The Board of Higher Education Policy R847, Criminal Background Checks, clarifies that fingerprint background checks may be conducted by "the Utah Bureau of Criminal Identification, the Federal Bureau of Investigation or another government or commercial entity." Currently, some areas of the college, such as child care, require employees to undergo fingerprint background checks.

Comment: Section 4.F.3 seeks information beyond the scope of what the statute requires. Concerns that 4.F.3 constitutes an invasion of the employee or prospective employee's privacy and could affect hiring individuals without social security numbers.

Response: Section 4.F.3 was revised to state, "to verify the candidate or employee's identification, obtain information regarding past employment, and search the individual's criminal background nationwide in the individual's counties of residence."

Comment: Commenters expressed concerns over 4.G.2. What would be the circumstances in which the president or their designee could require candidates to pay for their background check?

Response: Section 4.G.2 was removed from the policy.

Comment: Possibly reword 4.H.2 to state, "In conducting the risk assessment, PWC's hiring representative will consult with the hiring manager to determine whether the candidate constitutes an acceptable or unacceptable risk using the factors set forth in section 4.H.1."

Response: Section 4.H.2 was revised to clarify "the PWC Employment Team."

Comment: Possibly reword 4.H.4 to state, "The supervisor, in consultation with Employee Relations, will determine whether an existing employee, whose criminal background check revealed a criminal history, should be eligible to obtain or retain the position. In such circumstances, Employee Relations may seek additional documentation, using the reasonable cause standard, to assess the existing employee's risk to the college."

Response: No changes were made in response to this comment. PWC will evaluate any background check results on a case-by-case basis.

Comment: Consider organizing section 4.I into subsections dealing with Employment Candidates and Existing Employee rights. Suggest revising 4.I.2.

Response: Section 4.I.2 was revised to state, "The candidate or employee shall be able to respond to PWC regarding the pre-adverse notification and any information received due to the background check."

Comment: Consider adding a section 4.I.4 stating, "An existing employee, who is subjected to adverse action, due to the Criminal Background Check, may be entitled to a hearing under the Employee Grievance Policy or Academic Freedom, Professional Responsibility and Tenure policy, whichever is applicable."

Response: Revision accepted.

Comment: Consider revising section 4.K.1 to state, "Documentation associated with background checks will be kept secure, confidential, and protected. Only employees with a legitimate business purpose to know of the background checks' contents shall have access to the information."

Response: Revision accepted.

Comment: Technical Suggestions regarding grammatical changes and hyperlinks were received.

Response: Suggestions were accepted as appropriate.

## Legal Opinion

The first legal review (the "First Review") of the Background Check policy (the "Policy") of Salt Lake Community College ("SLCC") was completed on September 29, 2023. The First Review concluded that the Policy was legally acceptable. Pursuant to SLCC's Policy Development policy, the Policy was posted on SLCC's policy webpage for a 15-day comment period. Comments were received and considered, and the Policy was revised. The most notable revisions include:

1. Section 4.B was revised to state:

   a. Existing full-time and part time employees, including full-time faculty members, "must" (as opposed to "may" in the prior draft) complete a background check every five years (as opposed to three years in the prior draft).

   b. Existing staff members who apply for a different position, and have not had a background check within one year must complete a background check.

   c. An existing employee must submit to a background check when PWC finds that reasonable cause for a background check exists.

d. Existing employees who refuse to complete a background check may be subject to corrective action.

2. Section 4.C was revised to indicate that existing employees and volunteers must report criminal convictions, arrests, or criminal charges in any form initiated by any governmental authority to their supervisor within five business days.

3. Section 4.E was revised to eliminate a provision indicating that if SLCC must bring a candidate on board immediately, the employment offer shall note that a background check is in process and that the offer and continued employment shall be contingent on the background check results, which resulted in the section stating that "[b]ackground checks shall be completed before PWC authorizes a candidate to begin working."

4. Section 4.G was revised to eliminate a provision indicating that there may be times when SLCC's president or designee may require candidates to pay for background checks, which resulted in the section stating that SLCC "shall pay the costs to the bureaus or agencies for processing candidates', employees', and volunteers' background checks."

5. Section 4.I was revised to include a provision stating that "[a]n existing employee, who is subjected to adverse action, due to a background check, may be entitled to a hearing under the Employee Grievance policy, or the Academic Freedom, Professional Responsibility and Tenure policy, whichever is applicable.

6. Section 4.K was revised to state that documentation associated with background checks will be kept secure, confidential, and protected, and that "[o]nly employees with a legitimate business purpose to know of the background checks' contents shall have access to the information."

The revisions referenced above have been carefully considered for legal significance. These revisions do not create any legal issues that have not already been considered and addressed in the development of this Policy. Thus, the revisions are compliant with Utah Code §53B-1-110.

One commenter observed that adjunct faculty are part-time positions, stated that Utah Code §53B-1-110(3)(b) does not require that background checks for adjunct faculty positions, and asked why SLCC is requiring adjunct faculty to complete background checks. The initial response to these comments was: (1) the Board of Higher Education Policy R847, Criminal Background Checks, specifically addresses the need for concurrent enrollment faculty and anyone at SLCC who will be working with minors to undergo background checks; (2) the process for assigning concurrent enrollment students who are minors to course sections has changed; and (3) as a result, PWC and the appropriate Associate Deans cannot identify which faculty, adjunct or otherwise, will be teaching minors until after the course has begun. Presumably, this is the main reason SLCC has decided to require adjunct faculty to complete

background checks. This requirement is consistent with Utah Code §53B-1-110(3)(c), which states that SLCC's policy "may allow or require applicants for positions other than those described in Subsection (3)(a)(i) to submit to a criminal background check as a condition of employment."

Based on the foregoing, the Policy, as revised, is legally acceptable. As a reminder, because it is a new policy, it will require the Board of Trustees approval.

# 4.4.070
# Background Checks Policy

Date of last board of trustees review: (new policy)

The originator of this policy is People & Workplace Culture. Questions regarding this policy may be directed to the originator by calling 801-957-4210.

## 1. Policy

This policy provides for background checks of prospective and existing Salt Lake Community College employees and volunteers.

## 2. References

Higher Education Criminal Background Checks, Utah Code §§ 53B-1-110.

# 4.4.070
# Background Checks Procedure

Date of last executive cabinet review: (new policy)

The originator of this procedure is People & Workplace Culture. Questions regarding this procedure may be directed to the originator by calling 801-957-4210.

## 3. Definitions

A. Adverse Action: any material action against an individual that affects an employee's employment status, including compensation, terms, conditions, location, rights, immunities, promotions, or privileges.

B. Candidate: individual offered employment, transfer, or promotion, contingent on acceptable results of a background check and other reviews required for the position by the college. Existing employees receiving a promotion in rank are not considered candidates.

C. Concurrent Enrollment Instructors: individuals contracted and/or paid by SLCC to teach concurrent enrollment courses.

D. Existing Employee: individual currently employed by SLCC.

E. Pre-adverse action notice: is a communication sent to candidates to alert them that the contents of their background check may influence a hiring decision.

F. Reasonable Cause: where the known facts and circumstances are sufficient to warrant a person of reasonable prudence to believe that the employee poses an unreasonable risk to persons or property, or a history or report of a crime will be found.

G. Volunteer: an individual who performs services directly related to the activities of the college for their own benefit or to support the humanitarian, educational, or public service activities of the college. Volunteers perform services without promise, expectation, or receipt of any compensation, future employment, or any other tangible benefit.

See Personnel Definitions

## 4. Procedures

A. Required Background Checks

1. All candidates for full-time or part-time positions at Salt Lake Community College must submit to a background check as a condition of employment.
2. Departments must check with People & Workplace Culture (Human Resources) before volunteer work occurs. Volunteers must submit to a background check if deemed necessary by People & Workplace Culture ("PWC").

B. Background Checks for Existing Employees

1. Existing full-time and part-time employees and full-time faculty must undergo background checks every five years during employment.
2. Existing employees must also submit to a background check if they are:
    a. adjunct faculty or staff who apply for full-time faculty positions;
    b. staff who apply for a different staff position and have not had a background check within one year;
    c. concurrent enrollment instructors; or
    d. working with an SLCC partnership that requires background checks to maintain agreements.
3. If there is a break in employment at the college, an employee must submit to a background check when employment resumes.
4. An existing employee must submit to a background check, where PWC finds that reasonable cause exists.
5. Existing employees who refuse to consent to a background check could receive corrective action.

C. Criminal Convictions

Existing employees and volunteers must report criminal convictions, arrests, or criminal charges in any form initiated by any governmental authority. This report must be provided to their Supervisor and Employee Relations within five business days, consistent with the SLCC Employee Conduct Policy.

D. Release of Information

PWC shall obtain signed consent for a background check for candidates for employment, existing employees, or volunteers.

E. Processing Time of Background Checks

Background checks shall be completed before PWC authorizes a candidate to begin working.

F. Third-party Agency Background Check

1. The college may use a third-party agency to conduct background checks.
2. The college may use a third-party agency to conduct a fingerprint background check process where indicated.
3. At a minimum, the third-party agency must conduct an investigation to verify the candidate or employee's identification, obtain information regarding past employment, and search the individual's criminal background nationwide in the individual's counties of residence.

G. Payment of Costs

The college shall pay the costs to the bureaus or agencies for processing candidates', employees', and volunteers' background checks.

H. Risk Assessment

1. PWC will assess the overall risk based on the convictions disclosed by the background check. That risk assessment will include:
   a. the type of conviction and whether it relates to the job;
   b. the length of time elapsed since the convictions;
   c. the number of convictions;
   d. the severity of the convictions;
   e. potential risk to other employees, customers, or the college; and
   f. other factors that may be relevant.
2. Based upon results, the PWC Employment Team may consult with the senior director of PWC, the associate vice president of PWC, the associate vice president of Public Safety, and the General Counsel to determine risk using the factors in section 4.H.1 of this policy.
3. PWC will notify the hiring manager of the determination regarding their prospective employee.
4. The college may determine whether an individual with a criminal history should be eligible to obtain or retain the position or if additional documentation should be required.

I. Opportunity to Respond

1. Before a candidate is denied employment or an employee is subjected to an adverse action based on information obtained in the background report, the candidate or employee will receive notice of the reasons for preliminary denial or the pre-adverse action.

2. The candidate or employee shall be able to respond to PWC regarding the pre-adverse notification and any information received due to the background check.

3. If a candidate disagrees with the accuracy of any information in the report and notifies PWC within three business days of receipt, the college shall provide a reasonable opportunity to address the information in the report.

4. An existing employee, who is subjected to adverse action, due to a background check, may be entitled to a hearing under the Employee Grievance policy or Academic Freedom, Professional Responsibility and Tenure policy, whichever is applicable.

J. Verification of Statements

1. During any background check, PWC reserves the right to verify any statements or references on the application form or other supplemental forms necessary for employment.

2. In their discretion, the associate vice president of PWC or their designee may evaluate the truthfulness of any candidate's statement in the application or such supplementary data as may be voluntarily submitted or required to be investigated.

3. Any item on the employment application determined to be falsified may result in the employee being terminated from their present position with the college, and a candidate will be removed from consideration for appointment to any campus position.

K. Record Keeping

1. Documentation associated with background checks will be kept secure, confidential, and protected. Only employees with a legitimate business purpose to know of the background checks' contents shall have access to the information.

2. Requests for copies of documentation must follow the PWC personnel file department rule.

L. Limitation on the Use of Information

The information in the background check will be available only to the employee or applicant and those involved in making employment decisions or performing the

background check, and the information will be used only for making an employment or promotion decision.

**TAB W**

# Employment of Relatives

Date: April 17, 2024
Sponsor: vice president Chris Martin

## Summary

Type of Review: 5-year

Last Board of Trustees Review: circa 2016

## Context

The policy and procedures have been revised for clarity and comprehension, and the definitions have been reviewed and revised. During the review of this policy, a main concern for the college community was the employment of spouses or domestic partners and employees who are married. Clarifying language addressing these concerns was included in sections 4.B, 4.C and 4.F.

1. Changes / Revisions to Policy Section
    a. Section 1 was revised for clarity and conciseness.
    b. No revisions were made to section 2.

# 4.4.050

# Employment of Relatives Policy

**Date of last board of trustees review: XXX**

**The originator of this policy is People & Workplace Culture. Questions regarding this policy may be directed to the originator by calling 801-957-4210.**

## 1. Policy

This policy establishes the guidelines and reporting requirements for the employment of relatives. This policy applies to all current and future employees.

## 2. References

A. Prohibiting Employment of Relatives, Utah Code Ann. §§ 52-3-1—4.

# 4.4.050
# Employment of Relatives Procedure

**Date of last executive cabinet review: March 29, 2016**

**The originator of this procedure is People & Workplace Culture. Questions regarding this procedure may be directed to the originator by calling 801-957-4210.**



## 3. Definitions

A. Administrative concern: caused by situations including, but not limited to, those involving preferential treatment of the relative in hiring, promoting, allocating salary, assigning duties, arranging schedules, allocating equipment or facilities, or treating matters that should involve discipline or termination.

B. Relatives: includes parent, sibling, spouse, child, grandparent, grandchild, domestic partner, aunt, uncle, niece, nephew, first cousin, mother-in-law, father-in-law, sister-in-law, brother-in-law, daughter-in-law, son-in-law, and any step-relatives of the same degree.

See Personnel Definitions

## 4. Procedures

A. Salt Lake Community College ("SLCC") is committed to a policy of employment and advancement based on qualifications and merit. SLCC does not discriminate in favor of or in opposition to the employment of relatives.

B. This policy specifically prohibits the employment of relatives in any position where a direct or indirect supervisory relationship would exist between relatives or would create an apparent or actual conflict of interest. This includes, but is not limited to, appointment, hiring committees, compensation, assignment of work, evaluation, grants administration and sponsored research projects, and financial authority or transactions.

C. Relatives may not be employed where they will work in close proximity, either as to administrative relationship or location, and they will not be employed; otherwise, where to do so would cause administrative concern. In cases of administrative concern, the department should contact Employee Relations to advise on a case-by-case basis.

D. Upon employment:

1. employees must disclose to their supervisor any known relationships that may cause a conflict of interest; and
2. an employee and their relative may not work in the same department (the lowest organizational unit).

E. This policy will not be considered retroactive.

F. Exceptions

1. For exceptions to the procedures in sections 4.B & C, the Employment of Relatives Authorization form must be submitted and will be routed for approvals.
2. Final approval is determined by the People & Workplace Culture Employment office, appropriate cabinet member, or college president, depending on the position's reporting structure.
3. Employees whose Employment of Relatives Authorization form has previously been approved need not resubmit it when applying for a different position at the college.