



September 16, 2022

General Consent Calendar

A. MINUTES

1. Minutes from Board meetings – (Attachment)

B. FINANCE AND FACILITIES

1. Annual Contracts and Grants Report – (Attachment)
2. Annual Institutional Residences Expense Report – (Attachment)
3. Annual Report on Foreign Gifts and Donations – (Attachment)
4. Utah State University Blanding Property Acquisition – (Attachment)

C. TECHNICAL EDUCATION

1. Transition of Clock-Hour to Credit-Hour Programs – (Attachment)
2. Program Alignment – (Attachment)

D. ACADEMIC EDUCATION

1. USHE Protocols for Senate Bill 127 (2022) – Early Literacy Outcomes Improvement – (Attachment)
2. USHE Protocols for Senate Bill 196 (2015) – Mathematics Competency Initiative – (Attachment)

E. STUDENT AFFAIRS

F. BOARD ADMINISTRATION

1. Technical Education and Board Policy Alignment – (Attachment)
2. President Astrid Tuminez Leave of Absence Request – (Attachment)

G. PROGRAM NOTIFICATIONS

INFORMATION:

New Program:

1. Southern Utah University – Master of Sciences in Nursing Leadership and Administration

NOTIFICATION:

New Program:

2. Utah Valley University – Certificate of Proficiency in Health and Wellness Coaching
3. Utah Valley University – Certificate of Proficiency in Interreligious Studies
4. Utah Valley University – Certificate of Proficiency in Japanese Language
5. Utah Valley University – Minor in Nutrition

New Emphasis

6. Utah Valley University – Master of Education – Elementary Arts Integration Emphasis
7. Utah Valley University – Master of Education – Elementary Science Emphasis

Discontinuance:

8. Utah Valley University – Endorsement in Dual Language Immersion Endorsement
9. Utah Valley University – Associate of Science in English
10. Utah Valley University – Associate of Science in English – Technical Communication Emphasis

H. AWARDS

1. University of Utah – IH National Cancer Institute; “CSSG_P30_Renewal_Ulrich”; \$4,199,958. Principal Investigator, Cornelia Ulrich.
2. University of Utah – NIH National Library of Medicine; “NLM UG4 202 Renewal”; \$2,013,730. Principal Investigator, Catherine B Soehner.
3. University of Utah – NIH National Cancer Institute; “SEER 2018”; \$2,169,014. Principal Investigator, Jenifer Anne Doherty.
4. University of Utah – NIH Natl Ctr for Advancing Transl Scnces; “CTSI UM1”; \$38,703,469. Principal Investigator, Rachel Hess.
5. University of Utah – IHHS Health & Resources Services Admn; “Casper/Hewes Pecarn Jan 2022”; \$3,200,000. Principal Investigator, Theron Charles Casper.
6. University of Utah – National Science Foundation; “PPOSS-FULL”; \$3,49,643. Principal Investigator, Ponnuswamy Sadayappan.
7. University of Utah – Utah Dept of Health Human Services; “IV-E Research FY23-27”; \$2,659,026. Principal Investigator, Meghan Louise Broadbent.
8. University of Utah – US Department of Defense; “WELM_DOD_06.23.2021_INI”; \$6,079,790. Principal Investigator, Alana Lee Welm.
9. University of Utah – US Department of Energy; “Enhanced Geothermal – Forge”; \$49,500,000. Principal Investigator, Joseph N Moore.
10. University of Utah – NIH Natl Inst Allergy & Infectious Dis; “Sundquist U54 Cheetah”; \$5,522,958. Principal Investigator, Wesley I Sundquist.
11. University of Utah – Genentech Inc; “ROCHE WA42294 OLE”; \$3,868,454. Principal Investigator, Mary Beth Scholand.
12. Utah State University – Air Force Research Laboratory; “Advanced Military Space Sensor System Task Order 2 – Precision Atomic Clocks Magnometers and Navigation Subtask”; \$15,700,004. Principal Investigator, Jeremy Nicoll.
13. Utah State University – Air Force Materiel Command; “Virtual Imagery Processing Capability High-Performance Computing Enhancements”; \$5,655,027. Principal Investigators, Shane Jenkins, Craig Kelley.
14. Utah Valley University – National Science Foundation; “Promoting Engagement in Chemistry, Physics and Earth Sciences”; \$1,500,000. Principal Investigator

GRANT PROPOSALS

1. University of Utah – NIH Natl Inst Neurology Disorders Stroke; “3D Gallium Array”; \$2,737,645. Principal Investigator, Divya Chandrasekhar.

2. University of Utah -DOD Defense Advanced Research Projects Agency; “DARPA MAX”; \$2,066,977. Principal Investigator, Seyed Armin Tajalli.
3. University of Utah – DOD Defense; “DARPA MAX”; \$2,021,066. Seyed Armin Blair.
4. University of Utah – US Department of Energy; “MUSE II”; \$16,000,000. Principal Investigator, Darryl P Butt.
5. University of Utah – NIH National Institute of Nursing Rsrch; “T32 Wallace Social Health”; \$2,706,898. Principal Investigator, Ander Schneider Wallace.
6. University of Utah – DHHS Agency for Healthcare Resh & Quality; “DDINTERACTION PA-20-074”; \$2,698,957. Principal Investigator, Daniel Malone.
7. University of Utah – NIH National Inst of General Medical Sci; “R35 HISTIDINE PHOSPHORYLATION”; \$2,010,000. Principal Investigator, Amy M Barrios.
8. University of Utah – DHHS National Institutes of Health; “Biosynthetic Enzymes”; \$3,058,717. Principal Investigator, Vahe Bandarian.
9. University of Utah – DHHS National Institutes of Health; “Par-19-367 (Renewal)”; \$2,954,755. Principal Investigator, Ofer Rog.
10. University of Utah – UT Division of Child and Family Services; “IV-E Research FY23-27”; \$2,843,392. Principal Investigator, Meghan Louise Broadbent.
11. University of Utah – NIH Natl Inst Dental Craniofacial Rsrch; “Composite”; \$8,154,000. Principal Investigator, Annette Fleckenstein.
12. University of Utah – University of New Mexico; “Gertz_PO1_Sub_UNM_05.25.2022”; \$2,550,057. Principal Investigator, Jason Gertz.
13. University of Utah – DHHS National Institutes of Health; “Reconnect”; \$4,700,509. Principal Investigator, Sarah Shizuko Morimoto.
14. University of Utah – DHHS Health Resources & Services Admn; “Villabos HRSA May 2022”; \$4,000,000. Principal Investigator, Michele Elizabeth Villalobos.
15. University of Utah – NIH Natl Inst Allergy & Infectious Dis; “R01 AII70236 Resub”; \$3,677.214. Principal Investigator, Timothy Hanley.
16. University of Utah – NIH Natl Ctr for Complmt & Integtv Hlth; “Kanekar R01 Bioenergetic Jun22”; \$2,687,559. Principal Investigator, Shami S Kanekar.
17. University of Utah – NIH Natl Inst Neurolog Disorders Stroke; “Dr. Brennan R01-Origins Renew”; \$2,542,473. Principal Investigator, Kevin C Brennan Jr.
18. University of Utah – Army Medical Research Acquisition Activity; “Nitrofurantoin PRMRP”; \$2,438,593. Principal Investigator, Dustin Lee Williams.
19. University of Utah – NIH Natl Ctr for Advncing Translt Scnces; “CTSI K12”; \$4,860,000. Principal Investigator, Maureen Murtaugh.
20. University of Utah – NIH Natl Ctr for Advncing Translt Scnces; “CTSI RC2 – DHARE”; \$3,843,610. Principal Investigator, Guilherme Del Fiol.
21. University of Utah – Utah Action Center; “Stem AC Evaluation”; \$2,340,723. Principal Investigator, Andrea K Rorrer.

22. University of Utah – US Department of Energy; “DOE SAGE-UIFL”; \$9,527,078. Principal Investigator, Jennifer Lee Weidhaas.
23. University of Utah – National Science Foundation; “NSF CPS Frontier”; \$4,053,674. Principal Investigator, Kam K Leang.
24. University of Utah – DOD Defense Advanced Resrch Prjcts Agcy; “MEMS Stabilized Clocks”; \$3,444,51. Principal Investigator, Massood Tabib-Azar.
25. University of Utah – National Science Foundation; “RE_VAMP”; \$2,996,832. Principal Investigator, Bart Raeymaekers.
26. University of Utah – NIH Natl Inst Neurolog Disorders Stroke; “Effective and Safe Modulation”; \$2,380,110. Principal Investigator, Ian Kubanek.
27. University of Utah – American Battery Factory Inc; “Commercial Manufacturing”; \$2,00,299. Principal Investigator, Tao Gao.
28. University of Utah – NIH Natl Inst Diabetes Kidney Dis; “Eating Mindfully NIDDK R01”; \$3,782,200. Principal Investigator, Tanya M Halliday.
29. University of Utah – NIH National Institute on Aging; “Fall-Risk in Geriatric MTBI”; \$3,777,970. Principal Investigator, Peter C Fino.
30. University of Utah – NIH National Cancer Institute; “Warner Echo R01 May 2022”; \$3,759,499. Principal Investigator, Echo Ln Warner.
31. University of Utah – NIH Natl Int Diabetes Digest Kidney Dis; “ML&ASB CGM+OPSC R01 June 2022”; \$2,757,838. Principal Investigator, Michelle Leann Litchman.
32. University of Utah – NIH National Institute Environl Hlth Sci; “Reilly R35”; \$8,580,137. Principal Investigator, Christopher A Reilly.
33. University of Utah – NIH Natl Inst Neurolog Disorders Stroke; “MGLUR5 in Epilepsy Revised”; \$3,463,583. Principal Investigator, Karen S Wilcox.
34. University of Utah – NIH Natl Inst Neurolog Disorders Stroke; “Singe Cell Types”; \$3,331,342. Principal Investigator, Eric W Schmidt.
35. University of Utah – DHHS National Institutes of Health; “o1 Resub Bortolato, Marco: A”; \$2,966,114. Principal Investigator, Marco Bortolato.
36. University of Utah – National Science Foundation; “TA Analysis 2021”; \$3,070,615. Principal Investigator, Charles Jui.
37. University of Utah – UT Division of Child and Family Services; “UT IV-E Training FY3-27”; \$18,379,639. Principal Investigator, Chad Hughes McDonald.
38. University of Utah – DHHS National Institutes of Health; “More Primary Care R01”; \$3,835,076. Principal Investigator, Eric L Garland.
39. University of Utah – NIH National Cancer Institute; “KEPKA_PREVENT_R01”; \$3,940,874. Principal Investigator, Deanna Lee Kepka.
40. University of Utah – DHHS National Institutes of Health; “ZH*-Hartnett PIS NIH R01 New”; \$3,822,634. Principal Investigator, Weiquan Zhu.
41. University of Utah – DHHS National Institutes of Health; “CAMP_NIH_R01_Resubmission”; \$3,629,540. Principal Investigator, Kevin J Whitehead.

42. University of Utah – DHHS National Institutes of Health; “MSTP T32 Resubmission”; \$3,363,291. Principal Investigator, Michael S Petrey.
43. University of Utah – DHH National Institutes of Health; “Campbell IH Ro1 New 6.6.2022”; \$3,186,991. Principal Investigator, Robert A Campbell.
44. University of Utah – DHHS National Institutes of Health; “Ro1 PA-20-185 Radiation”; \$3,057,665. Principal Investigator, Ravi Ranjan.
45. University of Utah – NIH National Cancer Institute; “Kirchhoff_Ro1_06.06.2022”; \$2,955,412. Principal Investigator, Anne C Kirchhoff.
46. University of Utah – DHHS National Institutes of Health; “Rothenfluh NIH Ro1”; \$2,946,983. Principal Investigator, Adrian Rothenfluh.
47. University of Utah – NIH National Inst Child Hlth & Human Dev; “DBTG”; \$2,700,000. Principal Investigator, H Joseph Yost.
48. University of Utah – DHHS National Institutes of Health; “Ro1-PA-20-183 Flutter”; \$2,620,377. Principal Investigator, Rave Ranjan.
49. University of Utah – DHHS National Institutes of Health; “Role for Leukotrienes”; \$2,591,412. Principal Investigator, Ademuyiwav Aromolara.
50. University of Utah – DHHS National Institutes of Health; “R33 Resub Drummond 7.16.22”; \$2,321,420. Principal Investigator, Micah J Drummond.
51. University of Utah – DHHS National Institutes of Health; “Leibold NIH Ro1 New 6.6.22”; \$2,094,169. Principal Investigator, Elizabeth A Leibold.
52. University of Utah -UD Department of Energy; “DE-FOA-0002630 Solar Thermal”; \$4,355,521. Principal Investigator, Kody Merlin Powell.
53. University of Utah – NIH National Cancer Institute; “Kinsey_Ro1_resub_05.26.2022”; \$3,843,262. Principal Investigator, Conan Grant Kinsey.
54. University of Utah – NIH National Institute on Aging; “Hardikar_Colorectal Cancer”; \$3,788,658. Principal Investigator, Sheetal Hardikar.
55. University of Utah -NIH National Institute on Aging; “O’Connell_Ro1_04.04.2022”; \$3,611,840. Principal Investigator, Ryan M O’Connell.
56. University of Utah – NIH National Cancer Institute; “Coletta_Ro1_06.06.2022”; \$3,527,586. Principal Investigator, Adriana M Coletta.
57. University of Utah – NIH Natl Ctr for Advncing Translt Scnes; “Dean U24 TIC June 2022”; \$23,098,671. Principal Investigator, J Michael Dean.
58. University of Utah – Army Medical Research Acquisition Actvty; “Puro Pouch TTDA Level 2”; \$4,887,609. Principal Investigator, Dustin Lee Williams.
59. University of Utah – NIH National Heart Lung & Blood Inst; “Holubkov U24 June 2022”; \$4,234,337. Principal Investigator, Richard Holubkov.
60. University of Utah – DHHS Agncy for Healthcare Resh & Quality; “Improving Diagnostic Safety”; \$3,999,131. Principal Investigator, Valerie Michele Vaughn.
61. University of Utah – DHHS National Institutes of Health; “Personalized Risk Stratificat”; \$3,865,436. Principal Investigator, Benjamin Adam Steinberg.

62. University of Utah – DHHS National Institutes of Health; “MAIT SEPSIS R01”; \$3,771,067.
Principal Investigator, Daniel Ted Leung.
63. University of Utah – Samhsa Center for Substance Abuse Prvntn; “Samhsa Mat-PDOA”;
\$3,750,000. Principal Investigator, Adam Joseph Gordan
64. University of Utah – DHHS National Institutes of Health; “ECMO Trial – Tonna R01 June2022”;
\$3,605,496. Principal Investigator, Joseph E Tonna.
65. University of Utah – Massachusetts General Hospital; “Rapaport Sub MGH Jun 2022”;
\$3,576,991. Principal Investigator, Mark Hyman Rapaport.
66. University of Utah – NIH National Inst of General Medical Sci; “NIH Nitro Gel”; \$3,548,177.
Principal Investigator, Dustin Lee Williams.
67. University of Utah – DHHS National Institutes of Health; “Lai R01 June 2022”; \$3,52,465.
Principal Investigator, Kent Lai.
68. University of Utah – NIH National Institute of Nursing Rsrch; “KNOY R01 June 2022”;
\$3,405,503. Principal Investigator, Flory Lumu Nkoy.
69. University of Utah – NIH National Inst Child Hlth & Hman Dev; “Hotaling SCI R01 June 2022”;
\$3,404,334. Principal Investigator, James Morris Hotaling.
70. University of Utah – DHHS National Institutes of Health; “Pelvic Prolapse Prevention”;
\$3,269,237. Principal Investigator, Carolyn W Swenson.
71. University of Utah – NIH National Institute of Mental Health; “Langenecker R33 June 2022”;
\$3,021,356. Principal Investigator, Scott Aaron Langenecker.
72. University of Utah – DHHS National Institutes of Health; “MOCHA”; \$2,991,206. Principal
Investigator, Chun Yuan.
73. University of Utah – DHHS National Institutes of Health; “Zelikowsky R01”; \$2,985,930.
Principal Investigator, Moriel Zelikowsky.
74. University of Utah – HRSA Bureau of Health Professions; “Utah AHEC”; \$2,962,438. Principal
Investigator, Ivette Maelia Lopez.
75. University of Utah -DHHS National Institutes of Health; “New R01 ROH Johnson”; \$2,338,913.
Principal Investigator, Minna Roh.
76. University of Utah – NIH Natl Inst Neurolog Disorders Stroke; “MRS FUS & Spinal Cord Injury”;
\$2,289,247. Principal Investigator, Donna Cross.
77. University of Utah – Army Medical Bone CAP Research Acquisition Actvty; “Bone Cap”;
\$2,245,878. Principal Investigator, David L Rothberg.
78. University of Utah – NIH National Eye Institute; “CNAP1 inVision”; \$2,236,917. Principal
Investigator, Jun Yang.
79. University of Utah – DHHS National Institutes of Health; “Decision Tools Diarrhea Childr”;
\$2,116,125. Principal Investigator, Daniel Ted Leung.
80. University of Utah – CDC National CTR for Infectious Diseases; “RFTOP 2021 Domain 1-A006”;
\$2,000,000. Principal Investigator, Matthew H Samore.
81. University of Utah – National Science Foundaton; “Pre-Proposal: AI Institute”; \$20,000,000.
Principal Investigator, Valerio Pasucci.

82. University of Utah – NIH National Inst of General Medical Sci; “NRBC”; \$6,798,640. Principal Investigator, Robert S Macleod.
83. University of Utah – NIH Natl Inst Dental Craniofacial Rsrch; “Craniorate”; \$3,757,123. Principal Investigator, Ross T Whitaker.
84. University of Utah – DHHS National Institutes of Health; “Blair NIH UG3/UH3 2022”; \$5,462,161. Principal Investigator, Steven M Blair.
85. University of Utah – DHHS National Institutes of Health; “Deans RO1 Synthetic Circuits”; \$3,424,759. Principal Investigator, Tara Lynn Deans.
86. University of Utah – NIH Natl Inst Deaf & other Comm Disorder; “U24 Center for Audiology”; \$2,880,499. Principal Investigator, Holly A Holman.
87. University of Utah – Utah System of Higher Education; “Robotics Deep Tech”; \$2,224,764. Principal Investigator, Mark Andrew Minor.
88. University of Utah – NIH Natl Int Diabetes Digest Kidney Dis; “Simonsen Maps Engage RO1June22”; \$3,805,951. Principal Investigator, Sara Marie Ellis Simonsen.
89. University of Utah – HRSA Rural Health Policy; “HRSA Rural Opioid”; \$2,000,000. Principal Investigator, Linda S Edelman.
90. University of Utah – DHHS National Institutes of Health; “Targeting ISCA2”; \$2,350,282. Principal Investigator, Mei Yee Koh.
91. University of Utah – DHHS National Institutes of Health; “RO1 Illudalogs in SUG”; \$2,336,029. Principal Investigator, Amy M Barrios.
92. University of Utah – DHHS National Institutes of Health; “RO1 20-183-Ranjan Tachycardia”; \$3,054,226. Principal Investigator, Ravi Ranjan.
93. University of Utah – DHHS National Institutes of Health; “Robin Shaw MPI RO1 Resub”; \$3,019,216. Principal Investigator, Robin Mark Shaw.
94. University of Utah – DHHS National Institutes of Health; “RO1 20-183-Ranjan (Flutter)”; \$2,696,551. Principal Investigator, Ravi Ranjan.
95. University of Utah – US Department of Energy; “Graphite and Lithium Battery”; \$50,001,107. Principal Investigator, Rasoul B Sorkhabi.
96. University of Utah – DHHS National Institutes of Health; “ENDO NIH RESUB”; \$3,894,880. Principal Investigator, Karen Cecilia Schliep.
97. University of Utah – DHHS National Institutes of Health; “RPL CVD”; \$3,866,898. Principal Investigator, Karen Cecilia Schliep.
98. University of Utah – NIH National Institute on Aging; “RO1 Regulatory Mech Resub”; \$3,846,640. Principal Investigator, Christopher T Gregg.
99. University of Utah – NIH National Institute of Nursing Rsrch; “RO1 Marc-Wellness Resub”; \$3,625,153. Principal Investigator, Jorie Michaela Butler.
100. University of Utah – DHHS National Institutes of Health; “Dr. Yan Renewal”; \$3,347,200. Principal Investigator, Tianxin Wang.
101. University of Utah – NIH National Institute of Mental Health; RO1MH129450 Resub Kirrel3-GABA”; \$3,199,386. Principal Investigator, Megan E Williams.

102. University of Utah- DHHS National Institutes of Health; “Clark Renewal Resub 07 2022”; \$3,122,465. Principal Investigator, Nathan Clark.
103. University of Utah – DHHS National Institutes of Health; “IAQ W Fast Response CFD”; \$2,808,379. Principal Investigator, Darrah Kaye Howe.
104. University of Utah – DHHS National Institutes of Health; Stork and Deep MRI Learning”; \$2,736,656. Principal Investigator, Edward Victor Rebok Di Bella.
105. University of Utah – DHHS National Institutes of Health; “English S10 Resub June 2022”; \$2,000,000. Principal Investigator, Justin Gregory English.
106. Utah State University – National Institutes of Health; “Age-Related Decline in Norepinephrine Activity and Increased Risk of Falls in Older Adults”; \$2,077,999. Principal Investigator, Michael Warren Christopher.
107. Utah State University – National Institutes of Health; “The dynamics of aging-associated ovarian cellular senescence”; \$3,553,365. Principal Investigator, Jeffrey Mason.
108. Utah State University – US Dept of Energy-Science;” Seme-Arid, changing Environment, Urban Integrated Field Laboratory”; \$6,004,868. Principal Investigator, Randal S Martin.
109. Utah State University – UT Department of Workforce Services;” URPD FY23”; \$3,945,069. Principal Investigator, Carrie M Stott.
110. Utah State University – US Dept of Int-Bureau of Land; “Supporting BLM Low-Tech Process-Based Restoration of Riverscapes”; \$2,729,886. Principal Investigator, Leah A Schilling.
111. Utah State University – Missile Defense Agency; “Trajectory Intensity Estimator Modernization”; \$2,608,033.
112. Utah State University – US Department of Education; “NASNTI Cooperative Arrangement Development Grant”; \$2,750,000. Principal Investigator, Joao Wilson Bueno.
113. Utah State University – Misc Federal Sponsors; “Twelve Space vehicle Assembly, Integration, and Testing (AI&T) and program management functions for the Space Development Agency (SDA) Tranche 1 Demonstration and Experimentation System (T1DES)”; \$6,858,320. Principal Investigator, Gavin Payne.
114. Utah State University – Misc Federal Sponsors; “Perform space vehicle assembly, Integration, and Testing in support of the National Defense Space Architecture (NDSA) Experimental Testbed (NEXT) program”; \$7,508,495. Principal Investigator, Gavin Payne.
115. Utah State University – Air Force Nuclear Weapons Center; “SDL will provide onsite Subject Matter Expert (SME) support of the Ground Based Strategic Deterrent (GBSD) program.”; \$7,773,757. Principal Investigator, Todd Eppich, Roger Ellis.



**Utah Board of Higher Education
Utah System of Higher Education
Thursday, July 14, 2022**

**COMMITTEE OF THE WHOLE
MINUTES**

Board Members Present

Lisa-Michele Church, chair
Jessellie Anderson, vice chair
Grace Acosta
Stan Albrecht
Stacey Bettridge
Rich Christiansen
Hope Eccles
Heather Johnson
Patricia Jones
Arthur Newell
Shawn Newell
Steve Starks
Scott Theurer
Xitlalli Villanueva
Rick Wheeler

Board Members Absent

Julie Beck
Sanchaita Datta

Office of the Commissioner

Dave R. Woolstenhulme, Commissioner of Higher Education
Geoffrey Landward, Deputy Commissioner and General Counsel
Taylor Adams, Associate Commissioner for Strategic Initiatives
Alison Adams-Perlac, Associate General Counsel
Trisha Dugovic, Director of Communication
Malin Francis, Director of Facilities & Planning
Brynn Fronk, Executive Assistant to the Utah Board of Higher Education
Jared Haines, Senior Advisor for Technical Education
Julie Hartley, Associate Commissioner of Academic Education
Melanie Heath, Assistant Commissioner of Strategic Initiatives
Vic Hockett, Talent Ready Utah Director
Lais Martinez, Assistant Commissioner for Equity, Diversity, and Inclusion
Carrie Mayne, Chief Economist
Jordan Passey, Budget and Planning Analyst
Juliette Tennert, Chief Financial Officer
Melissa Van Hien, Executive Assistant to the Commissioner
Scott Wyatt, Senior Executive Director of Online Education
Kim Ziebarth, Associate Commissioner of Technical Education

Institutional Presidents Present

Mindy Benson, Southern Utah University (interim)
Darin Brush, Davis Technical College
Clay Christensen, Mountainland Technical College
Noelle Cockett, Utah State University

Stacey McIff, Snow College (interim)
Brad Mortensen, Weber State University
Jordan Rushton, Dixie Technical College (interim)
Aaron Weight – Uintah Basin Technical College

Paul Hacking, Tooele Technical College
Deneece Huftalin, Salt Lake Community College

Richard Williams, Utah Tech University
Brennan Wood, Southwest Technical College

Boards of Trustees

Kent Alder, Utah State University
Gil Almquist, Dixie Technical College
Karla Bergeson, Weber State University
Danelle Brinkerhoff, Uintah Basin Technical College
Lori Chillingworth, Salt Lake Community College
Kearston Cutrbus, Weber State University
Michael Evans, Southwest Technical College
Christian Garner, University of Utah
Darin Gifford, Southwest Technical College
Jodi Hart Wilson, Southern Utah University
Dave Haskell, Tooele Technical College
Terri Hunter, Mountainland Technical College
Leslie Keisel, Snow College
Nancy Kennedy, Bridgerland Technical College
Camille Knudson, Tooele Technical College
Mari Krashowetz, Dixie Technical College
Colleen Kvetko, Utah Tech University
Rick Nielsen, Utah Valley University
Vanessa Perez, Mountainland Technical College
Rick Robinson, Snow College
Eric Schmutz, Southern Utah University
William Shafer, Ogden-Weber Technical College
Brady Southwick, Salt Lake Community College
James Taggart, Ogden-Weber Technical College
Eric Wamsley, Bridgerland Technical College
Tiffany Wilson, Utah Tech University
Troy Wood, Davis Technical College

Other Guests

Laura Snow, Chief of Staff, University of Utah
Chris Nelson, Chief University Relations Officer & Secretary to the University, University of Utah
Wayne Vaught, Provost / Sr. Vice President for Academic Affairs, Utah Valley University
Jacob Wright, Senior Budget & Policy Analyst, Governor's Office of Planning & Budget

Chair Church called the meeting to order at 10:00 a.m.

General Session

Welcome & Introductions

Chair Church welcomed the group and highlighted concerns and challenges the system is facing. This was an information item only; no action was taken.

How do the Strategic Plan and Statute Work Together?

Geoff Landward reviewed statute with the group and the difference in governance between the Utah Board of Higher Education and the institutional boards of trustees. This was an information item only; no action was taken.

Update of Progress on Strategic Plan

Commissioner Woolstenhulme emphasized how important it is that the institution's strategic plans fit into the Board's strategic plan. He reviewed the pillars of the plan. The Commissioner shared they are meeting with each institution to receive feedback on the Board's strategic plan. Changes to the plan will be proposed to the Board at the August committee meetings. Taylor Adams walked through the strategic plan in more detail and reviewed the plan on USHE's website. She provided a basis for what currently exists and noted that changes will be made in the August committee meetings. This was an information item only; no action was taken

Using Committees to Advance the Board's Work

Chair Church reviewed the committee assignments and introduced the USHE staff members supporting each committee, Julie Hartley, Melanie Heath, Juliette Tennert, and Kim Ziebarth.

Julie Hartley provided an overview of the work of the Academic Education Committee. Melanie Heath gave a summary of the Student Affairs Committee's work. Juliette Tennert reviewed the Finance and Facilities Committee assignments. Kim summarized the work of the Technical Education Committee. This was an information item only, no action was taken.

Opportunity for All Utahns

Lais Martinez discussed the attainment gaps that exist in higher education. She stated it is extremely critical that everything we do as a Board and system is centered around equity and closing the attainment gaps. She highlighted the work that is being done including the equity lens framework and equity-related resolutions. She explored the new Board to ask in every conversation they're a part of what is the equity imperative. She thanked the chief diversity officers for leading out on this work. This is an information item only; no action was taken.

Crisis Communications

Kelsey Richardson and Matthew Driscoll from R&R Partners provided crisis communications training to attendees. This was an information item only; no action was taken.

Breakout Sessions

The Board of Higher Education, boards of trustees, and presidents broke out into three separate breakout sessions. The Board of Higher Education discussed how the Board governs and can foster a successful system of higher education. They also discussed their next steps for the coming year. This was an information item only; no action was taken.

The meeting adjourned at 3:00 p.m.

Geoffrey Landward, Secretary

Date Approved:



**Utah Board of Higher Education
Southern Utah University
Thursday, July 14, 2022**

**COMMITTEE OF THE WHOLE
MINUTES**

Board Members Present

Lisa-Michele Church, chair
Jessalie Anderson, vice chair
Stan Albrecht
Stacey Bettridge
Julie Beck
Rich Christiansen
Heather Johnson
Pat Jones
Arthur Newell
Shawn Newell
Steve Starks
Scott Theurer
Xitlalli Villanueva
Rick Wheeler

Board Members Absent

Grace Acosta
Sanchaita Datta
Hope Eccles

Office of the Commissioner

Dave R. Woolstenhulme, Commissioner of Higher Education
Geoffrey Landward, Deputy Commissioner and General Counsel
Taylor Adams, Associate Commissioner for Strategic Initiatives
Alison Adams-Perlac, Associate General Counsel
Trisha Dugovic, Director of Communication
Malin Francis, Director of Facilities & Planning
Brynn Fronk, Executive Assistant to the Utah Board of Higher Education
Russ Galt, Senior Assistant Commissioner for Technical Education Finance
Jared Haines, Senior Advisor for Technical Education
Julie Hartley, Associate Commissioner of Academic Education
Melanie Heath, Assistant Commissioner of Strategic Initiatives
Vic Hockett, Talent Ready Utah Director
Lais Martinez, Assistant Commissioner for Equity, Diversity, and Inclusion
Carrie Mayne, Chief Economist
Jordan Passey, Budget and Planning Analyst
David Pulsipher, Audit Director
Brian Shuppy, Senior Assistant Commissioner for Budget and Planning
Juliette Tennert, Chief Financial Officer
Melissa Van Hien, Executive Assistant to the Commissioner
Scott Wyatt, Senior Executive Director of Online Education
Kim Ziebarth, Associate Commissioner of Technical Education

Institutional Presidents Present

Mindy Benson, Southern Utah University (interim)
Darin Brush, Davis Technical College
Chad Campbell, Bridgerland Technical College
Clay Christensen, Mountainland Technical College
Noelle Cockett, Utah State University
Paul Hacking, Tooele Technical College
Deneece Huftalin, Salt Lake Community College
Stacey McIff, Snow College (interim)

Brad Mortensen, Weber State University
Taylor Randall, University of Utah
Jordan Rushton, Dixie Technical College (interim)
Jim Taggart – Ogden-Weber Technical College
Astrid Tuminez, Utah Valley University
Aaron Weight – Uintah Basin Technical College
Richard Williams, Utah Tech University
Brennan Wood, Southwest Technical College

Other Guests

Gil Almquist, Chair, Dixie Technical College Board of Trustees
Eliezer Bermudez, Dean of the College of Health Sciences, Utah Tech University
Joe de Brito
Brad Cook, Former President, Snow College
Jen Cook, Former First Lady, Snow College
Marvin Dodge, Vice President for Finance and Administration, Southern Utah University
Meena Iyer, Associate Professor of OT, Utah Tech University
Leslie Keisel, Chair, Snow College Board of Trustees
Colleen Kvetko, Vice Chair, Utah Tech University Board of Trustees
Michael Lacourse, Provost and VP of Academic Affairs, Utah Tech University
Donna Law, Executive Director for Development & Government Relations, Southern Utah University
Chris Nelson, Chief University Relations Officer and Secretary to the University, University of Utah
James Sage, Associate Provost, Southern Utah University
Laura Snow, Chief of Staff, University of Utah
Wayne Vaught, Provost and Senior Vice President for Academic Affairs, Utah Valley University
Tiffany Wilson, Chair, Utah Tech University Board of Trustees

Chair Church called the meeting to order at 3:00 p.m.

Committee of the Whole

New Board Member Oath of Office

Brynn Fronk administered the Oath of Office to Board members Stan Albrecht, Steve Starks, Rich Christiansen, and Julie Beck. This was an information item only; no action was taken.

2022-23 Budget Initiatives Use of Funds Received

Juliette Tennert reviewed the reallocation of funding annual report with the Board members. Chair Church asked Juliette to clarify timing for the Board to do the new budget request for the upcoming legislative session. Juliette explained that the Board will review the institutional budget requests at the September Board meeting. These requests are for fiscal year 2024, which will start July 1, 2023. Chair Church encouraged the Board members to read the requests in the Board materials for the September Board meeting. This was an information item only; no action was taken.

2023-24 Budget Process Guidelines

Juliette Tennert explained the proposed budget process guidelines to use for the upcoming budget requests. The Finance and Facilities Committee reviewed it in their meeting earlier in the morning and they approved. The budget guidelines were created for the institutions to have a framework as they are thinking through their budget requests. Commissioner Woolstenhulme shared that the requests will be

vetted through the Board committees in the August meetings. This was an information item only; no action was taken.

Resolution of Appreciation of Jera Bailey

Chair Church acknowledged and highlighted Board member Jera Bailey's service on the Board. **Board member Theurer moved to approve the Resolution of Appreciation for Board member Jera L. Bailey. Board member Shawn Newell seconded the motion and the motion passed.**

Resolution of Appreciation for Bradley J. Cook

Chair Church reviewed the Resolution of Appreciation for Bradley J. Cook and President Cook's contributions as the president of Snow College. **Board member Shawn Newell moved to approve the Resolution of Appreciation for Bradley J. Cook. Board member Bettridge seconded the motion and the motion passed.**

Occupational Therapy Doctorate from Utah Tech

Arthur Newell introduced the request that came before the Academic Affairs Committee in the June 2022 meeting. Utah Tech is proposing an occupational therapy doctorate, which is outside their institutional role as a regional university. Because of this, it requires approval from the Board. It has gone through all the prerequisite approval steps. Chair Church asked President Williams to provide background to the Board members so they understand the context of the request which President Williams provided. Board member Theurer asked the president to clarify that the crediting body would not accredit a master's degree program. President Williams clarified that they would, but they would have to transition in a couple years and it would be an additional cost. Board member Theurer asked if the PT program is a doctorate level program which President Williams answered in the affirmative. Board member Jones asked if the students would be sufficiently prepared to take a doctoral program. President Williams explained that the students are very prepared and have all the prerequisites. Washington County is supposed to grow to the size of Pittsburgh in the next 14 years. They know there is going to be additional demands than what they have now. Board member Theurer asked if there are currently private or other providers of these kind of services that employ occupational therapists in their area. President Williams answered the school systems, nursing homes, and care facilities. Julie Hartley provided insight into the approval process for out of mission programs. Chair Church acknowledged Board member Eccles's concerns about future accountability and review for an exception like this. Chair Church noted for the record that it is rare for the Board to approve these type of requests. Board member Theurer expressed support in approving the program request. Chair Church asked if this will be an ongoing thing because we might have continuing workforce needs in southern Utah. President Williams stated they don't think they can predict that. Board member Johnson asked what the hesitation is in providing this program. Chair Church explained the role and mission of the regional school is not to provide doctoral programs. Board member Beck expressed support of the proposal. Board member Villanueva inquired about timing of the accreditation, financial aid for students in the program, and whether students in the program will stay in the area or leave out of state. President Williams stated the accreditation is a continual process, but the first graduating class will graduate from an accredited program. He also noted the students will qualify for financial aid and that their goal is to have as many students in the state or southern Utah area as possible, but that will vary depending who's qualified. Board member Jones emphasized that occupational therapy not just for the elderly. **Board member Jones moved to approve Utah Tech University's out-of-mission Occupational Therapy Doctorate program under the narrow restrictive exception provided by statute and Board Policy R401, which gives the Board authority to approve an out-of-mission program. This proposed program has met the strict criteria of R401; specifically, it has received supportive feedback from peer institutions, demonstrated high regional and statewide workforce demand, explored and exhausted all potential of maximizing partnerships with other USHE institutions including the University of Utah, and lastly, it has demonstrated unique geographical isolation, necessitating a standalone program.**

Board member Theurer seconded the motion with the comment that this is a doctoral program because the accrediting body requires that, otherwise it would be a master's program and it would be much easier for us to approve as a Board. So I can second it for that reason. The obvious need, employment opportunity, and the interest in it, but this is an exception. The motion passed. Board member Christiansen commented that exceptions cannot become a standard.

Board member Albrecht made a motion the Board places a moratorium on the review of any institutional out of roles and missions programs until completion of a comprehensive review and the development of potential changes to current policy. Board member Christiansen seconded the motion and Board member Beck opposed. The motion passed.

Capitol Facilities Request Priority Guideline

Juliette Tennert presented the recommended changes to policies, procedures, and guidelines to approve the state funded capitol project requests. Chair Church emphasized the issues they had in the past with the guidelines. The Commissioner expressed hesitation to going back to a queue due to the scrutiny from the legislature. Chair Church liked that the changes are data driven and tied to the strategic plan. **Board member Jones moved to approve the 2023 Capital Facility Request Priority Guidelines. Board member Theurer seconded the motion and the motion passed. Board member Theurer moved to approve the revisions to policies R741 through R745. Vice Chair Anderson seconded the motion and the motion passed.**

Ogden-Weber Technical College – Nontraditional Arrangement with Ogden School District

President Taggart reviewed the nontraditional arrangement between Ogden-Weber Technical College and Ogden School District. Chair Church asked if the President had any concerns he is worried about. President Taggart expressed they felt it would be more appropriate to build a brand new building instead of utilizing a building that used to be a youth corrections facility. Juliette Tennert shared they have vetted the program and have no concerns. They support the recommendation to approve. **Board member Steve Starks moved to authorize Ogden-Weber Technical College to enter into a nontraditional arrangement with Ogden School District for a ground lease to construct an Ogden School District Technical High School Building. Board member Shawn Newell seconded the motion and the motion passed.**

Promise Partnership Proposal

Juliette reviewed the Promise Partnership Proposal with the Board. Commissioner Woolstenhulme applauded and thanked former Board member Crystal Maggelet for the work she is doing. He stated they plan to reach out to multiple businesses across the state to leverage opportunities. **Board member Steve Starks made a motion to approve FJ Management as a Promise Partner for the 2022-2023 academic year along with a thank you to them for their incredible leadership. Vice Chair Anderson seconded the motion and the motion passed.**

Consent Calendar

Board member Theurer moved to approve the Consent Calendar. Board member Christiansen seconded the motion and the motion passed.

Motion to Adjourn

Board member Theurer made a motion to adjourn. Another Board member seconded the motion, but because of audio difficulties, we were unable to verify the Board member's identity and the motion passed.

Board Meeting Minutes

Friday, July 14, 2022

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The meeting adjourned at 4:45 p.m.

Geoffrey Landward, Secretary

Date Approved:



**Utah Board of Higher Education
Southern Utah University
Friday, July 15, 2022**

**COMMITTEE OF THE WHOLE
MINUTES**

Board Members Present

Lisa-Michele Church, chair
Jessalie Anderson, vice chair
Stan Albrecht
Julie Beck
Stacey Bettridge
Rich Christiansen
Heather Johnson
Patricia Jones
Arthur Newell
Steve Starks
Scott Theurer
Xitlalli Villanueva
Rick Wheeler

Board Members Absent

Grace Acosta
Sanchaita Datta
Hope Eccles
Shawn Newell

Office of the Commissioner

Dave R. Woolstenhulme, Commissioner of Higher Education
Geoffrey Landward, Deputy Commissioner and General Counsel
Brynn Fronk, Executive Assistant to the Utah Board of Higher Education
Melissa Van Hien, Executive Assistant to the Commissioner

Southern Utah University Board of Trustees

Jodi Hart Wilson, chair
Eric Schmutz, vice chair
Michelle Eyre

Other Attendees

Members of the Southern Utah University and Cedar City community

Vice Chair Anderson called the meeting to order at 3:30 p.m.

Committee of the Whole

Vice Chair Anderson welcomed those in attendance and thanked members of the presidential search committee for their efforts. Southern Utah Board of Trustees Chair Jodi Hart Wilson provided some brief remarks. Vice Chair Anderson called for a motion. **Board member Stacey Bettridge made a motion to appoint Mindy Benson as president of Southern Utah University. Board member Christiansen seconded the motion and the motion passed.** Vice Chair Anderson introduced President Benson and welcomed her to give remarks. President Benson addressed the group and expressed her appreciation and excitement.

Board Meeting Minutes

Friday, July 15, 2022

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Chair Church made a motion to end closed session. Board member Theurer seconded the motion and the motion passed.

The meeting adjourned at 4:00 p.m.

Geoffrey Landward, Secretary

Date Approved:



September 16, 2022

USHE - Annual Contracts and Grants Report

Regent Policy R532, *Acceptance and Approval of Contracts and Grants*, requires USHE institutions to submit an annual report summarizing the number and dollar amounts of contract and grant awards received during the previous fiscal year.

The Board recognizes that securing research contracts and training grants provides significant benefits to the higher education community, the state of Utah, and society as a whole, by not only supporting critical advances in research but also through job creation. To ensure the Board is informed about the contracts and grants that institutions are engaged in, the Board has requested that an annual report be provided for each fiscal year that summarizes both the number of and dollar amount of awards received.

For FY 2022, the total number of contracts and grants (not including federal COVID-19 Relief), compared with the prior fiscal year, increased by 5 million or 0.1%, and the total dollar amount increased by \$10.6 million or 0.9%. Additionally, three federal COVID-19 relief grant funding of \$261 million was expended during FY22, received on a reimbursement basis, and is presented by institution in the following chart.

Institution	CARES	HEERF II	ARPA	Total
University of Utah	\$7,907,414	\$4,003,098	\$37,436,521	\$49,347,034
Utah State University	\$540,650	\$1,323,779	\$171,989	\$2,036,418
Weber State University	-	\$8,301,545	\$32,364,416	\$40,665,961
Southern Utah University	\$23,559,364	-	\$2,259,432	\$25,818,796
Snow College	-	\$2,946,949	\$4,718,130	\$7,665,079
Utah Tech University	-	\$7,631,640	\$19,451,544	\$27,083,185
Utah Valley University	-	\$791,823	\$58,925,569	\$59,717,392
Salt Lake Community College	-	\$6,059,732	\$31,989,592	\$38,049,324
Bridgerland Technical College	-	\$555,951	\$1,062,504	\$1,618,455
Davis Technical College	-	-	\$2,713,710	\$2,713,710
Dixie Technical College	-	\$102,704	\$573,545	\$676,249
Mountainland Technical College	-	\$147,935	\$1,101,042	\$1,248,977
Ogden-Weber Technical College	-	\$1,042,915	\$1,363,842	\$2,406,757
Southwest Technical College	-	\$96,291	\$692,730	\$789,021
Tooele Technical College	-	-	\$671,584	\$671,584
Uintah Basin Technical College	-	-	\$463,694	\$463,694
Total	\$32,007,428	\$33,004,363	\$195,959,844	\$260,971,635

Commissioner's Recommendation

This is an information item only; no action is required.

Attachment

Utah System of Higher Education Contracts and Grants Report						
Institution	Fiscal Year 2021		Fiscal Year 2022		% Change	
	No.	Total \$ Amount	No.	Total \$ Amount	No.	Amount
University of Utah						
Research	1,943	\$469,756,812	1,906	\$495,318,350	-1.9%	5.4%
Instruction	187	32,333,697	231	38,290,560	23.5%	18.4%
Clinical	349	74,069,694	354	66,690,052	1.4%	-10.0%
Other	454	64,499,626	491	86,161,133	8.1%	33.6%
TOTAL Utah	2,933	\$640,659,829	2,982	\$686,460,095	1.7%	7.1%
Utah State University						
Research	1,027	\$310,643,432	913	\$294,015,601	-11.1%	-5.4%
Instruction	42	5,065,712	39	11,360,464	-7.1%	124.3%
Other	348	48,618,925	377	70,558,098	8.3%	45.1%
TOTAL USU	1,417	\$364,328,069	1,329	\$375,934,164	-6.2%	3.2%
Weber State University						
Research	48	\$4,136,680	41	\$8,286,773	-14.6%	100.3%
Instruction	31	2,872,357	68	10,583,647	119.4%	268.5%
Other	100	74,581,589	70	13,873,752	-30.0%	-81.4%
TOTAL WSU	179	\$81,590,626	179	\$32,744,172	0.0%	-59.9%
Southern Utah University						
Research	5	\$87,114	10	\$141,441	100.0%	62.4%
Instruction	18	789,909	12	1,078,952	-33.3%	36.6%
Other	144	13,775,709	147	14,065,589	2.1%	2.1%
TOTAL SUU	167	\$14,652,732	169	\$15,285,982	1.2%	4.3%
Snow College						
Research	3	\$44,227	5	\$60,825	66.7%	37.5%
Instruction	9	2,282,982	9	853,638	0.0%	-62.6%
Other	6	291,637	9	1,526,496	50.0%	423.4%
TOTAL Snow	18	\$2,618,846	23	\$2,440,958	27.8%	-6.8%
Utah Tech University						
Research	3	\$57,335	4	\$53,084	33.3%	-7.4%
Instruction	0	0	3	27,420		
Clinical	1	81,228	1	99,960	0.0%	23.1%
Other	42	4,431,668	44	3,399,803	4.8%	-23.3%
TOTAL UT	46	\$4,570,230	52	\$3,580,267	13.0%	-21.7%
Utah Valley University						
Research	22	\$1,126,056	26	\$1,967,448	18.2%	74.7%
Instruction	6	3,187,743	11	3,790,024	83.3%	18.9%
Other	45	5,616,181	50	6,235,095	11.1%	11.0%
TOTAL UVU	73	\$9,929,980	87	\$11,992,567	19.2%	20.8%
Salt Lake Community College						
Research	8	\$316,397	8	\$424,149	0.0%	34.1%
Instruction	11	1,037,527	24	1,565,836	118.2%	50.9%
Other	36	3,717,633	51	3,727,496	41.7%	0.3%
TOTAL SLCC	55	\$5,071,557	83	\$5,717,481	50.9%	12.7%

**Utah System of Higher Education
Contracts and Grants Report**

Institution	Fiscal Year 2021		Fiscal Year 2022		% Change	
	No.	Total \$ Amount	No.	Total \$ Amount	No.	Amount
Bridgerland Technical College						
Research	0	\$0	2	\$564,606		
Instruction	5	229,452	6	195,942	20.0%	-14.6%
TOTAL BTC	5	\$229,452	8	\$760,548	60.0%	231.5%
Davis Technical College						
Instruction	3	\$208,322	6	\$1,664,562	100.0%	699.0%
Other	4	2,821,635	3	1,665,292	-25.0%	-41.0%
TOTAL DTC	7	\$3,029,957	9	\$3,329,854	28.6%	9.9%
Dixie Technical College						
Other	2	237,130	2	800,700	0.0%	237.7%
TOTAL DXTC	2	\$237,130	2	\$800,700	0.0%	237.7%
Mountainland Technical College						
Instruction	1	\$157,793	1	\$474,181	0.0%	200.5%
TOTAL MTC	1	\$157,793	1	\$474,181	0.0%	200.5%
Ogden-Weber Technical College						
Instruction	11	\$580,300	4	\$94,000	-63.6%	-83.8%
Other	2	698,600	2	727,500	0.0%	4.1%
TOTAL OWTC	13	\$1,278,900	6	\$821,500	-53.8%	-35.8%
Southwest Technical College						
Instruction	2	\$142,258	0	\$0	-100.0%	-100.0%
Other	2	35,505	0	0	-100.0%	-100.0%
TOTAL SWTC	4	\$177,763	0	\$0	-100.0%	-100.0%
Toole Technical College						
Instruction	3	\$602,893	0	\$0	-100.0%	-100.0%
Other	2	769,571	0	0	-100.0%	-100.0%
TOTAL TTC	5	\$1,372,464	0	\$0	-100.0%	-100.0%
Uintah Basin Technical College						
Instruction	7	\$672,820	7	\$849,026	0.0%	26.2%
TOTAL UBTC	7	\$672,820	7	\$849,026	0.0%	26.2%
Total USHE						
Research	3,059	\$786,168,053	2,915	\$800,832,277	-4.7%	1.9%
Instruction	336	50,163,765	421	70,828,252	25.3%	41.2%
Clinical	350	74,150,922	355	66,790,012	1.4%	-9.9%
Other	1,187	220,095,409	1,246	202,740,954	5.0%	-7.9%
TOTAL USHE	4,932	\$1,130,578,148	4,937	\$1,141,191,496	0.1%	0.9%



UTAH SYSTEM OF
HIGHER EDUCATION

MEMORANDUM

September 16, 2022

Annual Institutional Residences Expense Report

Board Policy R207, *Institutional Residences for Colleges and Universities in the Utah System of Higher Education*, requires USHE institutions to submit an annual report summarizing the actual and budgeted expenses, as approved by the institution's respective board of trustees, for institutional residences.

The Board has asked for an annual report summarizing the actual and budgeted expenses associated with institutional residences, including maintenance costs, custodial and domestic assistance, and insurance.

This report is used to inform the Board about institutional residence expenditures and help Boards of trustees and institutions monitor and maintain appropriate internal controls, ensure that institutional residence budgets and expenses are reviewed and approved annually, and provide transparency regarding the facility's operation and maintenance costs.

The attached report summarizes each institutional residence's approved budget and expenditures for the past three fiscal years. Footnotes have been added to describe any significant change from prior years, any significant variances between the budgeted and actual expenditures, and any significant capital improvements to the residence.

Commissioner's Recommendation

This is an information item only; no action is required.

Attachment

Utah System of Higher Education
Institutional Residences Expense Report
FY 2020-2023

	2019-20		2020-21		2021-22		2022-23	Source of Funds	Square Footage
	Budget	Actual	Budget	Actual	Budget	Actual	Budget		
UofU	\$ 71,400	\$ 62,549	\$ 76,350	\$ 61,705	\$ 79,800	\$ 68,338	\$ 85,400	Discretionary	8,807
USU	\$ 72,000	\$ 99,079	\$ 72,000	\$ 36,988	\$ 72,000	\$ 36,772	\$ 72,000	E&G	12,403
WSU ¹	\$ 28,300	\$ 22,780	\$ 29,150	\$ 22,166	\$ 29,200	\$ 22,168	\$ 29,200	E&G	-
SUU ²	\$ 490,500	\$ 589,159	\$ 6,300	\$ 6,303	\$ 21,900	\$ 6,986	\$ 12,300	E&G, Discretionary	6,692
Snow	\$ 59,052	\$ 83,051	\$ 11,400	\$ 14,819	\$ 11,400	\$ 12,488	\$ 11,400	E&G, Discretionary	6,128
UT	\$ 23,500	\$ 18,636	\$ 27,500	\$ 38,221	\$ 42,000	\$ 26,230	\$ 52,500	E&G, Auxiliary	5,246
UVU ¹	\$ 21,300	\$ 21,300	\$ 21,300	\$ 21,300	\$ 21,300	\$ 36,000	\$ 48,000	E&G	-
SLCC ¹	\$ 21,300	\$ 21,300	\$ 21,300	\$ 21,300	\$ 21,300	\$ 21,300	\$ 21,300	Discretionary	-

Board Policy R207 provides for institutional coverage of expenses for maintenance, repair, utilities, insurance, and domestic assistance serving institutional purposes. Policy requires annual reports for the previous year's actual expenses and the current year's budget, as summarized in the table above.

¹WSU, UVU, SLCC - amounts reflect housing allowance and institutional functions.

²SUU - remodel of newly purchased home during FY19 and FY20 with \$320,000 for construction and \$130,000 for landscaping using discretionary funds; remodel of current residence to Child & Family Development Center funded from private donations. Minimal costs for FY21 as home remodel was completed in FY20.

Technical Colleges do not have institutional residences nor do Presidents receive a housing allowance.



UTAH SYSTEM OF
HIGHER EDUCATION

MEMORANDUM

September 16, 2022

Annual Report on Foreign Gifts and Donations

In 2010, the Utah Legislature enacted [H.B. 114, *Disclosure of Donations to Higher Education Institutions*](#), which requires the Utah Board of Higher Education to report annually to the Legislature certain gifts of \$50,000 or more during the fiscal period beginning July 1 and ending on June 30.

Any donations or gifts made to USHE institutions from a foreign person or entity in the form of an endowment, scholarship, gift, donation, or grant of money or property of any kind that is \$50,000 or more in a given year, must be reported to the Legislature. The \$50,000 is increased to \$250,000 or more if the gift is from a permanent resident of the United States, as defined by section 245 of the [Immigration and Nationality Act](#), who has been a resident for ten years or more.

As per Board Policy [R545, *Disclosure of Foreign Donations*](#), all higher education institutions have reported to the Office of the Commissioner on foreign donations or gifts received. For the 2021-22 fiscal year, only the University of Utah and Utah State University have reportable donations to disclose.

The report shows the University of Utah and Utah State University received \$1,100,640 in foreign donations; no other USHE institution received a foreign donation that fit the statutory requirements.

Institution	Foreign Donations FY 2021-22
University of Utah	\$1,042,680
Utah State University	\$57,960
System Total	\$1,100,640

Commissioner's Recommendations

This is an information item only; no action is required.

University of Utah

Name of Foreign Person/Individual	Country of Citizenship or Principal Residence	Date Received	\$ Amount of Each Gift	Aggregate \$ Amount per Foreign Person	If a Gift is Conditional - Describe Conditions/Restrictions
Jou, M.J.	Taiwan	1/2/2021	50,000	50,000	
Garret, Jean	Brazil	1/2/2021	82,680	82,680	
Kim, Yong	Korea, Republic of	1/2/2021	200,000	200,000	
Lassonde, Janelle	Canada	1/2/2021	325,000	325,000	
Lassonde, Pierre	Canada	1/2/2021	325,000	325,000	
Garver, Patrick	Canada	1/2/2021	60,000	60,000	
	University of Utah Total		1,042,680	1,042,680	

Utah State University

Name of Foreign Person/Individual	Country of Citizenship or Principal Residence	Date Received	\$ Amount of Each Gift	Aggregate \$ Amount per Foreign Person	If a Gift is Conditional - Describe Conditions/Restrictions
Benevity Community Impact Fund	Canada	07/09/2021	200		School of Teacher Education & Leadership (TEAL)
Benevity Community Impact Fund	Canada	08/05/2021	180		Big Blue Scholarship Fund
Benevity Community Impact Fund	Canada	08/05/2021	20		Computer Science
Benevity Community Impact Fund	Canada	08/05/2021	20		Nutrition Dietetics & Food Sciences
Benevity Community Impact Fund	Canada	08/05/2021	200		College of Engineering
Benevity Community Impact Fund	Canada	08/05/2021	20		Animal Dairy and Veterinary Science
Benevity Community Impact Fund	Canada	08/05/2021	100		Engineers Without Borders
Benevity Community Impact Fund	Canada	08/05/2021	122		Utah State University
Benevity Community Impact Fund	Canada	09/10/2021	20		Animal Dairy and Veterinary Science
Benevity Community Impact Fund	Canada	09/10/2021	9,000		Swaner EcoCenter
Benevity Community Impact Fund	Canada	09/10/2021	200		College of Engineering
Benevity Community Impact Fund	Canada	09/10/2021	20		Computer Science
Benevity Community Impact Fund	Canada	09/10/2021	20		Nutrition Dietetics & Food Sciences
Benevity Community Impact Fund	Canada	09/10/2021	200		Engineers Without Borders
Benevity Community Impact Fund	Canada	09/10/2021	366		Utah State University
Benevity Community Impact Fund	Canada	10/07/2021	20		Animal Dairy and Veterinary Science
Benevity Community Impact Fund	Canada	10/07/2021	200		College of Engineering
Benevity Community Impact Fund	Canada	10/07/2021	100		Engineers Without Borders
Benevity Community Impact Fund	Canada	10/07/2021	20		Computer Science
Benevity Community Impact Fund	Canada	10/07/2021	20		Nutrition Dietetics & Food Sciences
Benevity Community Impact Fund	Canada	10/07/2021	96		Rickert-Areno Engineering Scholarship
Benevity Community Impact Fund	Canada	10/07/2021	222		Utah State University
Benevity Community Impact Fund	Canada	11/11/2021	96		Rickert-Areno Engineering Scholarship
Benevity Community Impact Fund	Canada	11/11/2021	200		College of Engineering
Benevity Community Impact Fund	Canada	11/11/2021	20		Nutrition Dietetics & Food Sciences
Benevity Community Impact Fund	Canada	11/11/2021	20		Computer Science
Benevity Community Impact Fund	Canada	11/11/2021	20		Animal Dairy and Veterinary Science
Benevity Community Impact Fund	Canada	11/11/2021	583		School of Teacher Education & Leadership (TEAL)
Benevity Community Impact Fund	Canada	11/11/2021	225		Utah State University
Benevity Community Impact Fund	Canada	12/13/2021	486		Natalie P. Andrews & Christopher Chaves e Silva Endowed Scholarship
Benevity Community Impact Fund	Canada	12/13/2021	50		John & Dorothy Crockett Endowment
Benevity Community Impact Fund	Canada	12/13/2021	150		Andrea Watts Saxton Make It All Better Scholarship Endowment
Benevity Community Impact Fund	Canada	12/13/2021	100		Humanities & Social Sciences
Benevity Community Impact Fund	Canada	12/13/2021	20		Animal Dairy and Veterinary Science
Benevity Community Impact Fund	Canada	12/13/2021	300		College of Engineering
Benevity Community Impact Fund	Canada	12/13/2021	96		Rickert-Areno Engineering Scholarship
Benevity Community Impact Fund	Canada	12/13/2021	20		Nutrition Dietetics & Food Sciences
Benevity Community Impact Fund	Canada	12/13/2021	1,009		Computer Science
Benevity Community Impact Fund	Canada	12/13/2021	347		Utah State University
Benevity Community Impact Fund	Canada	01/11/2022	400		Student Emergency Hardship Fund
Benevity Community Impact Fund	Canada	01/11/2022	525		Huntsman Alumni Scholarship
Benevity Community Impact Fund	Canada	01/11/2022	20		Computer Science
Benevity Community Impact Fund	Canada	01/11/2022	20		Nutrition Dietetics & Food Sciences
Benevity Community Impact Fund	Canada	01/11/2022	200		Rex Leroy Hurst Endowment
Benevity Community Impact Fund	Canada	01/11/2022	20		Animal Dairy and Veterinary Science
Benevity Community Impact Fund	Canada	01/11/2022	3,000		Football

Utah State University

Name of Foreign Person/Individual	Country of Citizenship or Principal Residence	Date Received	\$ Amount of Each Gift	Aggregate \$ Amount per Foreign Person	If a Gift is Conditional - Describe Conditions/Restrictions
Benevity Community Impact Fund	Canada	01/11/2022	96		Rickert-Areno Engineering Scholarship
Benevity Community Impact Fund	Canada	01/11/2022	600		Aggies Unlimited
Benevity Community Impact Fund	Canada	01/11/2022	200		Computer Science Scholarship
Benevity Community Impact Fund	Canada	01/11/2022	192		Mathematics & Statistics Scholarship
Benevity Community Impact Fund	Canada	01/11/2022	150		STEM Initiative
Benevity Community Impact Fund	Canada	01/11/2022	100		Vicki Hurst Allan Endowed Scholarship in Computer Science
Benevity Community Impact Fund	Canada	01/11/2022	100		Stephen J. Allan Endowed Scholarship in Computer Science
Benevity Community Impact Fund	Canada	01/11/2022	950		College of Engineering
Benevity Community Impact Fund	Canada	01/11/2022	1,700		College of Engineering Scholarship
Benevity Community Impact Fund	Canada	01/11/2022	2,117		Utah State University
Benevity Community Impact Fund	Canada	02/11/2022	8,619		Evans Family Scholarship Endowment
Benevity Community Impact Fund	Canada	02/11/2022	75		F. Ross & Mary Kay Peterson Scholarship
Benevity Community Impact Fund	Canada	02/11/2022	5,000		Shane & Jennifer Lowe Student-Athlete Scholarship
Benevity Community Impact Fund	Canada	02/11/2022	97		USU General Scholarships
Benevity Community Impact Fund	Canada	02/11/2022	5,000		Ann Shallcross Johnson Scholarship
Benevity Community Impact Fund	Canada	02/11/2022	145		Aimee Leaming Wilson "Be Kind" Scholarship Endowment
Benevity Community Impact Fund	Canada	02/11/2022	97		Communicative Disorders & Deaf Education
Benevity Community Impact Fund	Canada	02/11/2022	1,700		Tessa & Kevin White Family Scholarship Endowment
Benevity Community Impact Fund	Canada	02/11/2022	20		Animal Dairy and Veterinary Science
Benevity Community Impact Fund	Canada	02/11/2022	96		Rickert-Areno Engineering Scholarship
Benevity Community Impact Fund	Canada	02/11/2022	20		Nutrition Dietetics & Food Sciences
Benevity Community Impact Fund	Canada	02/11/2022	20		Computer Science
Benevity Community Impact Fund	Canada	02/11/2022	192		IOPG Intern Travel
Benevity Community Impact Fund	Canada	02/11/2022	200		College of Engineering
Benevity Community Impact Fund	Canada	02/11/2022	1,139		Utah State University
Benevity Community Impact Fund	Canada	03/11/2022	150		F. Ross & Mary Kay Peterson Scholarship
Benevity Community Impact Fund	Canada	03/11/2022	67		Humanities & Social Sciences
Benevity Community Impact Fund	Canada	03/11/2022	14		USU General Scholarships
Benevity Community Impact Fund	Canada	03/11/2022	20		Animal Dairy and Veterinary Science
Benevity Community Impact Fund	Canada	03/11/2022	96		Rickert-Areno Engineering Scholarship
Benevity Community Impact Fund	Canada	03/11/2022	20		Computer Science
Benevity Community Impact Fund	Canada	03/11/2022	20		Nutrition Dietetics & Food Sciences
Benevity Community Impact Fund	Canada	03/11/2022	25		Women's Basketball
Benevity Community Impact Fund	Canada	03/11/2022	450		College of Engineering
Benevity Community Impact Fund	Canada	03/11/2022	778		Utah State University
Benevity Community Impact Fund	Canada	03/30/2022	75		F. Ross & Mary Kay Peterson Scholarship
Benevity Community Impact Fund	Canada	03/30/2022	20		Computer Science
Benevity Community Impact Fund	Canada	03/30/2022	20		Nutrition Dietetics & Food Sciences
Benevity Community Impact Fund	Canada	03/30/2022	20		Animal Dairy and Veterinary Science
Benevity Community Impact Fund	Canada	03/30/2022	192		Rickert-Areno Engineering Scholarship
Benevity Community Impact Fund	Canada	03/30/2022	25		Women's Basketball
Benevity Community Impact Fund	Canada	03/30/2022	200		Mitch & Leslie Butikofer Scholarship
Benevity Community Impact Fund	Canada	03/30/2022	257		Utah State University
Benevity Community Impact Fund	Canada	04/12/2022	10		Nutrition Dietetics & Food Sciences
Benevity Community Impact Fund	Canada	04/12/2022	10		Computer Science
Benevity Community Impact Fund	Canada	04/12/2022	10		Animal Dairy and Veterinary Science

Utah State University

Name of Foreign Person/Individual	Country of Citizenship or Principal Residence	Date Received	\$ Amount of Each Gift	Aggregate \$ Amount per Foreign Person	If a Gift is Conditional - Describe Conditions/Restrictions
Benevity Community Impact Fund	Canada	04/22/2022	10		Animal Dairy and Veterinary Science
Benevity Community Impact Fund	Canada	04/22/2022	10		Computer Science
Benevity Community Impact Fund	Canada	04/22/2022	10		Nutrition Dietetics & Food Sciences
Benevity Community Impact Fund	Canada	05/10/2022	75		F. Ross & Mary Kay Peterson Scholarship
Benevity Community Impact Fund	Canada	05/10/2022	100		Big Blue Scholarship Fund
Benevity Community Impact Fund	Canada	05/10/2022	24		Statewide Campuses
Benevity Community Impact Fund	Canada	05/10/2022	192		Rickert-Areno Engineering Scholarship
Benevity Community Impact Fund	Canada	05/10/2022	400		Jon M. Huntsman School of Business
Benevity Community Impact Fund	Canada	05/10/2022	37		Women's Basketball
Benevity Community Impact Fund	Canada	05/10/2022	200		Mitch & Leslie Butikofer Scholarship
Benevity Community Impact Fund	Canada	05/10/2022	443		Utah State University
Benevity Community Impact Fund	Canada	06/03/2022	2		Utah State University
Benevity Community Impact Fund	Canada	06/09/2022	75		F. Ross & Mary Kay Peterson Scholarship
Benevity Community Impact Fund	Canada	06/09/2022	10		Student Emergency Hardship Fund
Benevity Community Impact Fund	Canada	06/09/2022	50		Mitch & Leslie Butikofer Scholarship
Benevity Community Impact Fund	Canada	06/09/2022	3,958		Aggies Unlimited
Benevity Community Impact Fund	Canada	06/09/2022	495		Merlin Olsen Fund for Football Competitive Excellence
Benevity Community Impact Fund	Canada	06/09/2022	495		Wayne Estes Fund
Benevity Community Impact Fund	Canada	06/09/2022	20		Computer Science
Benevity Community Impact Fund	Canada	06/09/2022	20		Nutrition Dietetics & Food Sciences
Benevity Community Impact Fund	Canada	06/09/2022	75		Women's Basketball
Benevity Community Impact Fund	Canada	06/09/2022	20		Animal Dairy and Veterinary Science
Benevity Community Impact Fund	Canada	06/09/2022	77		Utah State University
Benevity Community Impact Fund	Canada	06/09/2022	97		School of Teacher Education & Leadership (TEAL)
Benevity Community Impact Fund	Canada	06/30/2022	75		F. Ross & Mary Kay Peterson Scholarship
Benevity Community Impact Fund	Canada	06/30/2022	20		Computer Science
Benevity Community Impact Fund	Canada	06/30/2022	20		Nutrition Dietetics & Food Sciences
Benevity Community Impact Fund	Canada	06/30/2022	20		Animal Dairy and Veterinary Science
Benevity Community Impact Fund	Canada	06/30/2022	97		School of Teacher Education & Leadership (TEAL)
Benevity Community Impact Fund	Canada	06/30/2022	50		Women's Basketball
Benevity Community Impact Fund	Canada	06/30/2022	387	57,960	Utah State University
	Utah State University Total		57,960	57,960	
Utah System of Higher Education Total			1,100,640	1,100,640	



UTAH SYSTEM OF
HIGHER EDUCATION

MEMORANDUM

September 16, 2022

Utah State University – Blanding Property Acquisition

Board Policy R703, *Acquisition of Real Property*, requires the institutions of higher education to inform the Utah Board of Higher Education of the acquisition of institutional property valued at less than \$1,500,000. Utah State University (USU) is informing the Board of the acquisition of 1.43 acres and a 10-foot strip of land between the 1.43 acres and the USU Blanding Technical Education Building. It was necessary to acquire the 10-foot strip from the city of Blanding to join the two properties successfully.

USU offered the fair market appraised value of \$60,000 to acquire the 1.43 acres with the condition that USU acquire the 10-foot strip from the city of Blanding in exchange for a long-term easement. Utah State University Board of Trustees approved the acquisition on December 3, 2021.

Commissioner's Recommendations

This is an information item only; no action is required.

Attachment



August 18, 2022

Commissioner Dave Woolstenhulme
Utah State Board of Regents
Board of Regents Building The Gateway
60 South 400 West
Salt Lake City, Utah 84101-1284

Subject: Real Property Acquisitions

Dear Commissioner Woolstenhulme:

Following Board of Regents policy R703, Acquisition of Real Property, Utah State University desires to report the acquisition of two parcels of unimproved land located at approximately 860 South and 200 West in Blanding, Utah. The properties are 1.43 acres and a 10-foot strip between the 1.43 acres and the USU Blanding Technical Education Building property as shown in Exhibit A. To successfully join the two properties, it was necessary for USU to acquire the 10-foot strip from Blanding City in exchange for a long-term easement granted to the City for future storm drainage.

USU offered the fair market appraised value of \$60,000 to acquire the 1.43 acres. Acquisition of the property allows the Trucking Program to expand the driving practice course and provide necessary parking and storage space for vehicles and equipment. The source of funding was funds available through Tech Education.

The Utah State University Board of Trustees approved the acquisition of the 1.43 acres with the condition that USU acquire the 10-foot strip from Blanding City in exchange for a long-term easement in the December 3, 2021, meeting. Acquisition of the 10-foot strip will be finalized after the 1.43 acre purchase has been recorded.

We appreciate your support and request that this item be reported to the Finance and Facilities Committee during the September meeting.

Sincerely,

A handwritten signature in black ink, appearing to read 'David T. Cowley'.

David T. Cowley

Vice President for Finance & Administrative Services

cc: Juliette Tennert, Chief Financial Officer
Malin Francis, Director of Facilities & Planning
Noelle E. Cockett, President

EXHIBIT A





UTAH SYSTEM OF
HIGHER EDUCATION

MEMORANDUM

September 16, 2022

Transition of Clock-Hour to Credit-Hour Programs

As part of the strategic plan, the Utah Board of Higher Education (Board) approved the transition of technical education programs from clock-hours to credit hours. In July 2021, the Board passed policy R474, *Clock-Hour to Credit-Hour Transition* to guide the process. Within the policy, section 4.2 states that each program's transition to credit, including the delivery format, must be approved by the Board. This approval is required by:

- the Council on Occupational Education (COE), the agency that accredits the technical colleges;
- the U.S. Department of Education for financial aid eligible programs.

Section 4.3 of the policy states that institutions shall submit applications for approval of the clock-hour to credit-hour conversion by the accrediting body through the Office of the Commissioner following a prescribed schedule. Following approval, the Office of the Commissioner will submit the applications to the COE for approval.

The total cost for the transition is \$25,000. Based on the number of programs offered by each institution, technical colleges will reimburse the system office for this amount.

Because technical colleges offer certificates only, institutions must retain both clock-hours and credit-hours in the student information system. Once the transition of all programs is complete, credit-hours will be used in publications and articulation agreements. Credit will be calculated using a formula provided by the U.S. Department of Education. There will be some flexibility on implementation.

Commissioner's Recommendation

The Commissioner recommends approval of the transition of the programs included in the attachment from clock-hours to credit-hours.

Attachment

College	Alias	Program	Clock-hour length	Proposed Credit-Hours	Delivery Method*
Mountainland	Nail Technician	Nail Technician	300	9	H
Mountainland	Surgical Technology	Surgical Technology	1314	32	T
Mountainland	Software Development	Web Programming and Development	900	27	H
Uintah Basin	Energy Services	Tower Technician	90	3	H

*Delivery Method

T – Traditional

H - Hybrid



UTAH SYSTEM OF
HIGHER EDUCATION

MEMORANDUM

September 16, 2022

Program Alignment

The Utah Board of Higher Education Strategic Plan includes a tactic to facilitate coordination among technical education programs to align program structure and course content to support transfer. This initiative is represented in a strategy to facilitate completion through the development of stackable credentials to support student transfer among institutions.

Information

Technical education programs have general broad alignment across technical education institutions, particularly those regulated through licensure or programmatic accreditations, which make up about half of the programs offered. Currently, program and course names, lengths, and objectives in the same occupational areas including regulated programs differ between institutions.

Degree granting institutions develop articulation agreements with each technical college, for each program area separately. Agreements define coursework that is transferable between the two institutions. Given that technical education programs may change on an annual basis in response to industry feedback provided through established occupational advisory committees, the work required to develop and maintain these agreements is significant.

By aligning programs across technical education institutions, articulation agreements developed by degree granting institutions will apply broadly to all technical college students who have completed the aligned programs and courses. For example, SLCC has internal articulations between technical college and academic programs. When technical education programs and courses are aligned across the system, these agreements will not only apply to SLCC students, but to any technical education student who has completed that program or course in the state.

Through this effort, degree-granting institutions will be better positioned to develop broad articulation agreements that benefit all technical college students who progress educationally, regardless of the institution they choose to attend.

Benefits

Students who receive credit for coursework already completed save time and tuition dollars. Reducing the duplication of completed courses helps students to progress more quickly to graduation. Reducing time to

completion reduces the odds of education being interrupted by life circumstances and increases graduation rates. This is particularly important to nontraditional students and underrepresented populations.

Expectations

- The Utah System of Higher Education (USHE) Commissioner's office coordinates and provides guidance and assistance on the alignment initiative
- Institutions must implement aligned programs within two years unless reasonable exceptions are granted by the Board of Higher Education Technical Education Committee
- The alignment initiative will follow program and course guidelines, including:
 - required participation of USHE institutions that offer technical education programs
 - alignment of program title, length in clock-hours and credit hours, description, and objectives
 - alignment of course numbers, titles, length in clock-hours and credit hours, descriptions, and objectives
 - a core of required courses representing foundational knowledge and skills comprised of at least 70% of the total program length
 - potential broad selection of elective courses representing regional employment needs comprising of no more than 30% of the total program length
- Programs offered by single institutions are submitted to the Office of the Commissioner to be included in the program inventory
- Electives can be added to the program at any time during the year and should be reported to the committee and Office of the Commissioner annually. Program committees consider whether to include electives in program requirements

Program Faculty Committees

- Faculty Program Committees are made up of one faculty representative for each program offered by an institution. The roster is updated annually.
- Faculty Program Committees will be convened, and new members oriented at the beginning of each fiscal year.
- Program committees will be made up of only one full-time faculty subject matter expert per program, per technical education institution in which the program is offered.
- Faculty are encouraged to send a faculty substitute if they are unable to attend a meeting.
- In cases where a full-time faculty member is not available, a program director may represent the program.
- Effort should be made to accommodate the schedules of as many attendees as possible.
- Committees should meet as often as needed to achieve the timeline goals identified below and at least once per year after alignment is achieved.
- While video conferencing is possible and acceptable, workgroup members are encouraged to maximize engagement and understanding of program and course content.

- Faculty should get supervisor approval and follow institutional procedures to get substitute faculty, if necessary to provide instructional coverage during their absence.
- Institutions will cover the cost to host, travel to, and/or participate in committee meetings.
- A simple majority of participating institutions will constitute agreement.
- Data will be used to inform decisions and changes to programs and courses.
- Institutions are required to implement agreed-upon courses and programs.

Process

- The Office of the Commissioner compiles and submits Program Committee proposals and modifications of proposals to Instructional Officers for review and recommendations.
- Instructional designers from participating institutions review program and course descriptions and objectives. Recommended changes are reviewed by faculty.
- The UBHE Technical Education Committee verifies proposals meet the intent of the initiative.
- Institutions may request the USHE Curriculum Committee and UBHE Technical Education Committee grant a waiver of alignment requirements with justification. The committee may approve variations of alignment.
- Proposals are submitted to the UBHE as an information item on the consent calendar.
- Program approval and modification requirements will be defined in USHE policy.

Timeline

FY22: For all programs with a regulatory body, state or national licensure, or with a third-party accreditation agency, the UBHE directed the alignment of program titles, lengths in clock-hours and credit-hours, descriptions, and objectives; and align required course numbers, titles, lengths in clock-hours and credit-hours, descriptions, and objectives. Programs are encouraged to identify and implement electives where necessary, as part of the program. Program titles, lengths in clock-hours and credit-hours, descriptions, and objectives for all other programs should also be aligned.

FY23: For all programs which have a regulatory body, state or national licensure, or generally have a third-party accreditation agency, committees are expected to complete implementation of FY22 alignment activities, including identification and implementation of electives, where necessary. For all other programs, alignment of required course numbers, titles, lengths in clock-hours and credit-hours, descriptions, and objectives should be achieved with the identification and implementation of elective courses where necessary.

FY24: Complete the implementation of FY23 alignment activities.

Progress Report

Committee members are asked to review this document, the progress report, and single institution and aligned program proposals prior to the meeting. An overview of the initiative progress will be presented to the committee and single institution and aligned program proposals will be presented for discussion.

Commissioner's Recommendation

The Commissioner recommends the committee forward single institution and aligned programs to the Committee of the Whole as an information item.

Attachment



Utah System of Higher Education
Advanced Emergency Medical Technician
FY2023 / 6 Credits (186 Clock-Hours)

Advanced Emergency Medical Technician			
Institutions: Davis, Dixie, Mountainland, Salt Lake, Southwest			
<i>Certificate of Program Completion (Catalog Year: 2023, 6 Credits/186 Clock-Hours Required, CIP: 51.0904)</i>			
Core (6 Credits/186 Clock-Hours)		Credits	Clock-Hours
PREF XXXX	Advanced Emergency Medical Technician	6	186



Utah System of Higher Education

Advanced Emergency Medical Technician

FY2023 / 6 Credits (186 Clock-Hours)

Program Description

Advanced Emergency Medical Technicians provide basic and limited advanced emergency medical care and transportation of critical and emergent patients who access the emergency medical system (EMS). Advanced Emergency Medical Technicians (AEMTs) possess the fundamental knowledge and skills necessary to provide patient care and transportation. Advanced Emergency Medical Technicians function as part of a comprehensive EMS response, under medical oversight. Advanced Emergency Medical Technicians perform interventions with the basic and advanced equipment typically found on an ambulance. Advanced Emergency Medical Technicians function as a link between the scene and the emergency health care system.

Objectives:

Upon program completion, students will be able to:

- Demonstrate fundamental skills and knowledge of the following areas: the EMS system, the safety/well-being of the AEMT, and the medical, legal, and ethical issues to the provision of emergency care
- Integrate complex knowledge of the anatomy and physiology of the airway, respiratory, and circulatory systems to the practice of EMS
- Use foundational anatomical and medical terms and abbreviations in written and oral communication with colleagues and other health care professionals
- Apply comprehensive knowledge of the pathophysiology of respiration and perfusion to patient assessment and management
- Apply fundamental knowledge of lifespan development to patient assessment and management
- Utilize the foundational principles of the role of EMS during public health emergencies
- Apply (to patient assessment and management) fundamental knowledge of the medications carried by AEMTs that may be administered to a patient during an emergency
- Apply knowledge (fundamental depth, foundational breadth) of anatomy and physiology to patient assessment and management in order to assure a patient airway, adequate mechanical ventilation, and respiration for patients of all ages
- Interpret scene information and patient assessment findings (scene size-up, primary and secondary assessment, patient history, reassessment) to guide emergency management
- Provide basic and selected advanced emergency care and transportation based on assessment findings for an acutely ill patient
- Provide basic and selected advanced emergency care and transportation based on assessment findings for a patient in shock, respiratory failure or arrest, cardiac failure or arrest, and post-resuscitation management
- Provide basic and selected advanced emergency care and transportation based on assessment findings for an acutely injured patient
- Utilize principles of growth, development, aging, and assessment findings to provide basic and selected advanced emergency care and transportation for a patient with special needs
- Perform in accordance with operational roles and responsibilities to ensure patient, public, and personnel safety when responding to an emergency

COURSE DESCRIPTIONS

Advanced Emergency Medical Technician

6 Credits/186 Clock-Hours

Advanced Emergency Medical Technicians provide basic and limited advanced emergency medical care and transportation for critical and emergent patients who access the emergency medical system (EMS). Advanced Emergency Medical Technicians (AEMTs) possess the basic knowledge and skills necessary to provide patient care and transportation. Advanced Emergency Medical Technicians function as part of a comprehensive EMS response, under medical oversight. Advanced Emergency Medical Technicians perform interventions with the basic and advanced equipment typically found on an ambulance. The Advanced Emergency Medical Technician is a link from the scene to the emergency health care system. This course includes 6 hours of externship hours to be completed outside of the classroom time.

Objectives:

- Demonstrate fundamental skills and knowledge of the following areas: the EMS system, the safety/well-being of the AEMT, and the medical, legal, and ethical issues to the provision of emergency care
- Integrate complex knowledge of the anatomy and physiology of the airway, respiratory, and circulatory systems to the practice of EMS
- Use foundational anatomical and medical terms and abbreviations in written and oral communication with colleagues and other health care professionals
- Apply comprehensive knowledge of the pathophysiology of respiration and perfusion to patient assessment and management
- Apply fundamental knowledge of lifespan development to patient assessment and management
- Utilize the foundational principles of the role of EMS during public health emergencies
- Apply (to patient assessment and management) fundamental knowledge of the medications carried by AEMTs that may be administered to a patient during an emergency
- Apply knowledge (fundamental depth, foundational breadth) of anatomy and physiology to patient assessment and management in order to assure a patient airway, adequate mechanical ventilation, and respiration for patients of all ages
- Interpret scene information and patient assessment findings (scene size-up, primary and secondary assessment, patient history, reassessment) to guide emergency management
- Provide basic and selected advanced emergency care and transportation based on assessment findings for an acutely ill patient
- Provide basic and selected advanced emergency care and transportation based on assessment findings for a patient in shock, respiratory failure or arrest, cardiac failure or arrest, and post-resuscitation management
- Provide basic and selected advanced emergency care and transportation based on assessment findings for an acutely injured patient
- Utilize principles of growth, development, aging, and assessment findings to provide basic and selected advanced emergency care and transportation for a patient with special needs
- Perform in accordance with operational roles and responsibilities to ensure patient, public, and personnel safety when responding to an emergency



Utah System of Higher Education

Animal Sciences

FY2023 / 18 Credits (600 Clock-Hours)

Animal Sciences			
Institutions: Bridgerland			
<i>Certificate of Program Completion (Catalog Year: 2023, 18 Credits/600 Clock-Hours Required, CIP: 01.8301)</i>			
Core (18 Credits/600 Clock-Hours)		Credits	Clock-Hours
ANSC 1011	Introduction to Veterinary Tech	2	60
ANSC 1111	Patient Mgmt and Nutrition	3	90
ANSC 1201	Vet Assist Clinical Sciences	1	30
ANSC 1301	Vet Assisting Applications	1	30
ANSC 1401	Emergency Critical Care/End of Life	1	30
ANSC 1501	Clinical Procedures I	1	30
ANSC 1502	Clinical Procedures II	2	60
ANSC 1503	Clinical Procedures III	3	90
ANSC 2999	Clinical Externship	4	180
TOTALS		18	600



Utah System of Higher Education

Animal Sciences

FY2023 / 18 Credits (600 Clock-Hours)

PROGRAM DESCRIPTION

Animal Sciences provides students with hands-on training to develop the skills needed to work as support staff in veterinary clinics, shelters, or other animal-based institutions. Skilled and experienced instructors with unique animal sciences backgrounds provide real-world training in relevant topics such as animal restraint, nursing care, radiology, lab procedures, blood collection, IV catheterization, dental cleanings, vaccines, physical exams, and client services. Students will also train on front office procedures. This program supports the Bridgerland Technical College mission to deliver competency-based, employer-guided career and hands-on technical education to the Bear River Region.

Objectives:

- Graduates will safely and successfully restrain and work with a variety of small and large animals.
- Graduates will demonstrate proficiency in nursing care, laboratory procedures, dental cleanings, IV catheterization, vaccinations, and physical exams.
- Graduates will perform routine lab procedures including blood collection, fecals, and infection control.
- Graduates will demonstrate knowledge of veterinary terminology and pharmacology in communication with faculty, veterinarians, and other veterinary staff.

COURSE DESCRIPTIONS

Introduction to Veterinary Tech

2 Credits/60 Clock-Hours

This course provides a fundamental understanding of what a veterinarian assistant/pre-technician professional does to assist a veterinarian and other veterinary staff while helping animals in need.

Objectives:

- Understand career expectations of veterinarian assistants.
- Identify ethical and legal issues in veterinary care.
- Learn proper safety techniques.
- Practice animal management and human interaction.
- Learn medical terminology as it pertains to animal sciences.

Patient Mgmt and Nutrition

3 Credits/90 Clock-Hours

This basic science course introduces students to essential skills needed to maintain gainful and satisfying employment in veterinarian assisting careers. Students will learn anatomy, physiology, nutrition, medical treatments, and animal behavior.

Objectives:

- Demonstrate knowledge of anatomy and physiology.
- Understand nutritional needs of various animal species.
- Utilize problem-solving skills.
- Understand safe, competent, and individualized care to patients.
- Correctly perform medical calculations.
- Understand animal behaviors.

Vet Assist Clinical Sciences

1 Credits/30 Clock-Hours

This course provides students with knowledge and skills used in clinical settings for diagnosis and care of many conditions and diseases found in a variety of animal species.



Utah System of Higher Education

Animal Sciences

FY2023 / 18 Credits (600 Clock-Hours)

Objectives:

- Understand hematology, hemostasis processes, and clinical chemistry.
- Demonstrate appropriate knowledge of microbiology, cytology, and urinalysis.
- Understand pathology and pharmacology in animals.
- Recognize parasites, their hosts, and the relationship between them.
- Demonstrate knowledge of preventive medicine as it relates to animal sciences.
- Understand procedures for diagnostic imaging.
- Understand procedures for anesthesia and perioperative analgesia.

Vet Assisting Applications

1 Credits/30 Clock-Hours

This course provides students opportunity to practice veterinarian assisting skills in the classroom and practice laboratory.

Objectives:

- Demonstrate physical restraint.
- Collect accurate patient history.
- Assist in physical examinations.
- Demonstrate skills used in surgical nursing.
- Perform accurate diagnostic imaging.

Emergency Critical Care/End of Life

1 Credits/30 Clock-Hours

This course introduces students to a variety of domesticated animals treated in a veterinarian practice. Students will learn to recognize and address the physical condition of an animal and begin the care process for a sick or wounded patient.

Objectives:

- Identify emergency situations and required critical care.
- Demonstrate management of wounds, fractures, and other injuries.
- Demonstrate procedures for fluid therapy and blood transfusions.
- Demonstrate knowledge of animal dentistry.
- Provide care of cats and dogs including general grooming.
- Demonstrate care of horses.
- Correctly identify breeds of cats, dogs, and horses.
- Demonstrate care of food animals.
- Demonstrate care of birds, reptiles, amphibians, and small mammals.

Clinical Procedures I

1 Credits/30 Clock-Hours

This course provides students an introduction to basic skills in the classroom and practice laboratory. Students learn skills required in the animal care process and learn how to manage care for patients with uncomplicated conditions.

Objectives:

- Develop office skills involving scheduling, greeting, and following up with clients.
- Develop safe handling skills with needles/syringes.
- Demonstrate proper animal restraint techniques on common animal species.



Utah System of Higher Education

Animal Sciences

FY2023 / 18 Credits (600 Clock-Hours)

- Perform subcutaneous injections on live animals.
- Perform eye dissection.
- Perform heart and lung dissection.
- Demonstrate techniques for sperm evaluation, vaginal smears, and semen handling.
- Identify proper tube feeding techniques.
- Identify common pharmaceuticals used with animal treatment.
- Demonstrate animal hardware use (collars, carriers, muzzles, bags, gloves, etc).
- Obtain CPR certification.

Clinical Procedures II

2 Credits/60 Clock-Hours

This course provides students an introduction to skills in the classroom and practice laboratory. Students build on skills learned in Clinical Procedures I that are required in the animal care process.

Objectives:

- Demonstrate correct animal restraint.
- Demonstrate appropriate and accurate use of laboratory equipment.
- Collect blood sample for various species.
- Perform accurate complete blood counts (CBC), white blood counts (WBC), and Hematocrit counts.
- Demonstrate use of a refractometer.
- Perform Elisa tests.
- Demonstrate collection of tissue samples, masses, and skin scraping.
- Accurately prepare slides (blood, tissue, masses).
- Collect and evaluate urine.
- Collect and evaluate fecal samples (smear, tape, floatation, centrifugal).
- Correctly identify common parasites.
- Administer vaccines to various animal species.
- Demonstrate IV and IM injections.
- Demonstrate surgical preparation procedures for various animal species.
- Demonstrate preparation and sterile handling of surgical instrument packs.

Clinical Procedures III

3 Credits/90 Clock-Hours

This course provides students opportunity to strengthen animal care skills in the practice laboratory. Students build on skills learned in Clinical Procedures I and II that are required in the animal care process.

Objectives:

- Demonstrate appropriate grooming procedures for dogs and cats (including bathing, nails, ears, and expressing canine anal glands).
- Demonstrate procedures used in ophthalmic treatments.
- Demonstrate IV catheterization.
- Perform common bandaging.
- Demonstrate correct animal restraint various species.
- Understand specialized care treatments for birds (wings, nails, beaks).
- Understand specialized care treatments for wildlife.
- Interact comfortably with variety of small mammals.
- Perform feline dissection.



Utah System of Higher Education

Animal Sciences

FY2023 / 18 Credits (600 Clock-Hours)

Clinical Externship

4 Credits/180 Clock-Hours

This is the clinical course where students demonstrate application of knowledge and skills they have obtained from the classroom and laboratory experiences. This course provides 180 hours of clinical experience in actual veterinarian animal care settings.

Objectives:

- Understand interrelationship of veterinary team as a unit.
- Demonstrate office skills involving scheduling, greeting, and following up with clients.
- Collect accurate patient history.
- Assist in physical examinations.
- Demonstrate problem-solving skills.
- Understand safe, competent, and individualized care to patients.
- Demonstrate correct medical calculations.
- Demonstrate safe handling skills with needles/syringes.
- Demonstrate proper animal restraint techniques on common animal species.
- Perform injections on animals (SQ, IM, IV).
- Administer vaccines to various animal species.
- Demonstrate skills used in surgical nursing.
- Perform accurate diagnostic imaging.
- Demonstrate appropriate and accurate use of laboratory equipment.
- Collect blood sample for various species.
- Demonstrate use of a refractometer.
- Understand and utilize Elisa tests.
- Demonstrate collection of tissue samples, masses, and skin scraping.
- Accurately prepare slides (blood, tissue, masses).
- Collect and evaluate urine.
- Collect and evaluate fecal samples (smear, tape, floatation, centrifugal).
- Correctly identify common parasites.
- Demonstrate surgical preparation procedures for various animal species and procedures.
- Demonstrate preparation and sterile handling of surgical instrument packs.
- Demonstrate appropriate grooming procedures for dogs and cats (including bathing, nails, ears, and expressing canine anal sacs).
- Demonstrate procedures used in ophthalmic treatments.
- Demonstrate IV catheterization.
- Perform common bandaging.



Utah System of Higher Education

Controls Engineering Technology
FY2023 / 20 Credits (600 Clock-Hours)

Controls Engineering Technology			
Institutions: Bridgerland			
<i>Certificate of Program Completion (Catalog Year: 2023, 20 Credits/600 Clock-Hours Required, CIP: 47.0303)</i>			
Core (14 Credits/420 Clock-Hours)		Credits	Clock-Hours
CTRL 2000	Industrial Networking Basics	1	30
CTRL 2050	Vision Systems Basic	1	30
CTRL 2100	Programmable Logic Controllers 2	3	90
CTRL 2150	Human Machine Interface (HMI) Programming	2	60
CTRL 2200	Industrial Networking Lab	2	60
CTRL 2250	Servo Motors and Drives	1	30
CTRL 2800	Integration Capstone	4	120
Elective (6 Credits/180 Clock-Hours Required)		Credits	Clock-Hours
CTRL 2300	Programmable Logic Controllers 3	3	90
CTRL 2320	Vision Systems Advanced	1	30
CTRL 2420	Programmable Logic Controller Platforms	1	30
CTRL 2440	HMI Platforms	1	30
CTRL 2460	Robot Platforms	1	30
CTRL 2480	Vision Platforms	1	30
CTRL 2500	FANUC Basic Programming	1	30
CTRL 2550	FANUC ROBOGUIDE Simulation Software	2	60
CTRL 2620	Robot Vision and Safety	1	30
CTRL 2700	FANUC Advanced Programming	1	30
CTRL 2750	Manufacturing Analytics	2	60
CTRL 2901	Special Apps for Controls	6	180



Utah System of Higher Education

Controls Engineering Technology
FY2023 / 20 Credits (600 Clock-Hours)

PROGRAM DESCRIPTION

Controls Engineering Technology prepares qualified students for advanced work as Control System Technicians in an automated manufacturing environment. This certificate provides hands-on training in Programmable Logic Controllers (PLCs), industrial robots, industrial networking, servo system programming, vision systems, and HMI programming. The content of the competency-based curriculum is guided by the needs of local employers in the Bear River region. Prerequisite: successful completion of the Automated Manufacturing certificate, a related associate's or higher (from a nationally or regionally accredited institution as approved by the Department Head), or related industry experience (as approved by the Department Head). This program supports the Bridgerland Technical College mission to deliver competency-based, employer-guided career and hands-on technical education to the Bear River Region.

Objectives:

- A graduate will demonstrate the ability to build an operational industrial network containing computers and control devices.
- A graduate will demonstrate the ability to program a process using a common PLC.
- A graduate will demonstrate the ability to design and program an HMI screen to interface with a PLC and control a process.
- A graduate will demonstrate the ability to program a servo-driven process with a PLC.
- A graduate will demonstrate the ability to identify, locate, communicate with other devices, and inspect two different parts using machine vision.
- A graduate will demonstrate the ability to successfully build a project that integrates multiple control topics.

COURSE DESCRIPTIONS

Industrial Networking Basics

1 Credits/30 Clock-Hours

This course is designed to help students understand important Ethernet and TCP/IP concepts and terminology. It will also provide essential information about the industrial protocols and topology. Students will gain a solid grasp of Ethernet basics and the concepts required for an Industrial network. The course includes switch configuration, power over Ethernet, addressing, and wireless Ethernet.

Objectives:

- Describe basic network configuration.
- Use basic networking hardware, software, and tools.
- Describe common networking communications protocols.
- Use Power over Ethernet (PoE) in a network application.
- Build and test Ethernet cables.
- Configure a wireless access point.
- Discover and assign Internet Protocol (IP) addresses for various industrial control components.
- Set up a complete Industrial Ethernet network.

Vision Systems Basic

1 Credits/30 Clock-Hours

This course focuses on the Cognex Insight Easy Builder and Spreadsheet application interface with an additional emphasis on lighting, lenses, and filters. With the focus on getting the most from the In-Sight Explorer spreadsheets interface, users learn how to walk through the process of setting up a vision application using spreadsheet programming best practices. Students will learn to use advanced tools and tools recently added to the spreadsheet environment.

Objectives:

- Identify vision hardware and connections.



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Controls Engineering Technology
FY2023 / 20 Credits (600 Clock-Hours)

- Convert pixels to common measurements using calibration tools.
- Setup software interface and acquire first images.
- Identify parts using pattern matching and Logic.
- Identify presence or absence of feature using histogram tools.
- Identify part edges using edge tools.
- Identify irregular shapes using blob tools and image filters.
- Configure input and output signals then demonstrate their use.
- Send process results to external devices.
- Create custom interface for pass/fail results.
- Deploy application using simple interface and advanced interface.
- Demonstrate use of multiple lighting principles and techniques.

Programmable Logic Controllers 2

3 Credits/90 Clock-Hours

This course will introduce Studio 5000 Logix Designer (previously known as RSLogix 5000) and the CompactLogix PLC. Students will program using ladder logic for multiple labs based on industrial applications. Students will be required to wire, program, and troubleshoot various systems. Students will program a process on an actual machine as the final project.

Objectives:

- Connect to and configure a Programmable Logic Controller (PLC) using PLC programming software.
- Use tags, subroutines, data types, arrays, and sequencer code structure in programmable controller programming.
- Use input and output instructions, timers, counters, math instructions, and compare instructions in programmable logic controller programming.
- Connect and configure input and output (I/O) expansion cards, both local and remote.
- Demonstrate proper PLC wiring.
- Program a complete process from scratch.

Human Machine Interface (HMI) Programming

2 Credits/60 Clock-Hours

Human-Machine Interface (HMI) operator stations have become commonplace in modern industry because they eliminate wiring, enable operator functions to be modified in software, and provide the ability for the operator to monitor PLC operations data. Students will learn how to convert a Programmable Logic Controller program into a graphic Human Machine Interface Panel. Training will cover major topic areas including application editing, tags and communications, creating data logs, input and output objects, local messages and alarms, diagnostics, and information messages. Prerequisite: CTRL2100 Programmable Logic Controllers 2.

Objectives:

- Describe the use and need for Human Machine Interface (HMI) in an automation environment.
- Interface an HMI with a Programmable Logic Controller (PLC) to simulate a virtualized system.
- Create graphic displays.
- Build and animate an interactive graphic display.
- Configure HMI tag-based alarms.
- Create and configure a historical trend.
- Create and view a data log model.
- Use a graphic HMI panel to control a process on an actual machine.



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Controls Engineering Technology
FY2023 / 20 Credits (600 Clock-Hours)

Industrial Networking Lab

2 Credits/60 Clock-Hours

Device communication can be one of the most challenging aspects of any automated system. In this course, students will network PLCs, remote I/O blocks, sensor systems, servo drives, and robots so they are able to consistently pass information between devices. Prerequisites: AMAR 1700 Introduction to Industrial Robotics, CTRL2000 Industrial Networking Basics, CTRL2050 Vision Systems Basic, CTRL2100 Programmable Logic Controllers 2, CTRL2150 HMI Programming (Recommended: CTRL2500 Fanuc Basic Programming and CTRL2700 Fanuc Advanced Programming)

Objectives:

- Apply Industrial Networking concepts to devices used in industry.
- Set up industrial grade networking hardware.
- Configure network communication between Programmable Logic Controllers (PLCs), input and output (I/O) blocks, sensor systems, servos, and robots.
- Use standard PLC sequencer logic to control a process.
- Wire I/O and PLC network connections.
- Set up a remote connection to a PLC.

Servo Motors and Drives

1 Credits/30 Clock-Hours

Introduces servomechanisms to the student. Covers the basic operation of a motion control application. Students will program a servo drive and motor to perform basic motion commands. This course will be directed to configuration and tuning of motion control applications. Students will wire and program an electric motor drive to be self-controlled within a process. Prerequisite: CTRL2150 HMI Programming.

Objectives:

- Describe the components of a servomechanism.
- Use a network to connect a PLC to motion control modules.
- Configure motion modules in a Programmable Logic Controller (PLC).
- Write a PLC program to perform motion control.
- Write a PLC program to perform motion control with multiple axes.

Integration Capstone

4 Credits/120 Clock-Hours

This course will involve many aspects of an industrial control system. Students must complete a high skill level project. Students may be required to design, draw schematics, create flow charts, write progress reports, program a robot, program a Programmable Logic Controller (PLC), program servos, wire devices, or present for their capstone project. This may also include safety systems, risk assessments, and code diagrams. Students may be required to integrate the following items: PLC, HMI, servo drive, network switch, vision system, safety system, and industrial robotic arm. Instructor approval is required for the final project. Working students may propose an on-the-job project contingent on instructor and employer approval.

Objectives:

- Demonstrate advanced troubleshooting techniques
- Build a project using advanced programming in one or more of the following: Programmable Logic Controllers (PLC), Human Machine Interface (HMI), robots, servos, safety equipment, industrial networking equipment.
- Demonstrate a structured coding method.
- Report the project while following instructor reporting requirements.



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Controls Engineering Technology
FY2023 / 20 Credits (600 Clock-Hours)

ELECTIVE COURSES

Programmable Logic Controllers 3

3 Credits/90 Clock-Hours

This course will expand on the Programmable Logic Controller 2 course. This course will cover operation and application of safety programmable logic controllers, safety relays, safety I/O and risk assessments. Students will program a system using PID control methods. Students will be introduced to Structured Text and Function Block programming as well as Add-On instructions. Students will learn how to program using a structured programming method. Prerequisite: CTRL2100 Programmable Logic Controllers 2 and CTRL2150 HMI Programming

Objectives:

- Write a Programmable Logic Controller (PLC) program that uses the PID (Proportional Integral Derivative) method to control a process.
- Program a safety PLC using regular and safety I/O.
- Use an external safety relay in a PLC application.
- Perform a risk assessment.
- Use function block and structured text in basic PLC projects.
- Use Add-On Instructions (AOI) to enhance a PLC program.
- Program a PLC using a structured method.

Vision Systems Advanced

1 Credits/30 Clock-Hours

Vision systems are one of the most advanced tools in a technician's toolbox. Advances in deep learning for inspection and quality control applications, as well as character recognition, tool applications, and more advanced lighting techniques will be discussed and applied in this course. Prerequisite: CTRL2050 Vision Systems Basic

Objectives:

- Deploy VIDI deep learning tools.
- Apply advanced find tools.
- Identify text using OCR text recognition tools.
- Identify inconsistent/flexible features using advanced edge inspection tools.
- Identify unique colors using color tools.
- Build and execute a custom script.
- Apply advanced lighting including off axis, dome, lighting controllers, strobing.

Programmable Logic Controller Platforms

1 Credits/30 Clock-Hours

Students will choose a PLC platform and learn the software and hardware of that system. Students will learn to set up, configure and program this PLC in a variety of labs simulating industrial applications. Prerequisites: CTRL2100 Programmable Logic Controllers 2, CTRL2150 HMI Programming.

Objectives:

- Use a Programmable Logic Controller (PLC) from a selected manufacturer.
- Perform proper wiring between I/O and PLC on a selected platform.
- Perform PLC programming on a selected platform.
- Use PLC programming software to create and edit programs on a selected platform.

HMI Platforms

1 Credits/30 Clock-Hours

Students will choose a robot platform from a variety of available HMI systems and perform fundamental HMI tasks. With instructor guidance, students will need to be prepared to discover the interface, tools,



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FY2023 / 20 Credits (600 Clock-Hours)

and overall operation of the system from vendor provided manuals and resources. Prerequisites: CTRL2100 Programmable Logic Controllers 2, CTRL2150 HMI Programming.

Objectives:

- Use a Human Machine Interface (HMI) or Supervisory Control and Data Acquisition (SCADA) software from a selected manufacturer.
- Configure communication between the selected platform and a Programmable Logic Controller (PLC).
- Create graphic displays on a selected platform.
- Build and animate an interactive graphic display on a selected platform.

Robot Platforms

1 Credits/30 Clock-Hours

Students will choose a robot platform from a variety of available industrial robot systems and perform fundamental robotic tasks. With instructor guidance, students will need to be prepared to discover the interface, tools, and overall operation of the system from vendor provided manuals and resources.

Prerequisite: AMAR1700 Introduction to Industrial Robotics OR CTRL2500 Fanuc Basic Programming

Objectives:

- Power up and jog the robot.
- Recover from common program and robot faults.
- Execute production operations.
- Create, modify, and execute a material handling program.
- Monitor, force, and simulate Input and Output signals.
- Backup and restore individual programs and files.

Vision Platforms

1 Credits/30 Clock-Hours

Students will choose a vision platform from available industrial vision systems and perform fundamental tasks using that system. With instructor guidance, students will need to be prepared to discover the interface, tools, and overall operation of the system from vendor provided manuals and resources.

Prerequisite: CTRL2050 Vision Systems Basic.

Objectives:

- Identify vision hardware and connections.
- Convert pixels to common measurements using calibration tools.
- Setup software interface and acquire first images.
- Identify parts using pattern matching and Logic.
- Identify presence or absence of feature using histogram tools.
- Identify part edges using edge tools.
- Identify irregular shapes using blob tools and image filters.
- Configure input and output signals then demonstrate their use.
- Send process results to external devices.
- Create custom interface for pass/fail results.
- Deploy application using simple interface and advanced interface.

FANUC Basic Programming

1 Credits/30 Clock-Hours

The course covers the tasks that an operator, technician, engineer, or programmer needs to set up and program a FANUC Robotics Handling Tool Software Package. Students will practice hands-on pendant labs with industrial grade FANUC LR Mate 200i D manipulators and FANUC System R-30i B Mate Controllers. Prerequisite: AMAR1700 Introduction to Industrial Robotics.



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Controls Engineering Technology
FY2023 / 20 Credits (600 Clock-Hours)

Objectives:

- Power up and Jog the robot using multiple coordinate systems.
- Recover from common program and robot faults.
- Execute production operations.
- Create, modify, and execute a material handling program.
- Create and execute MACROs.
- Monitor, Force, and Simulate Input and Output Signals.
- Apply positional offsets in a material handling operation.
- Backup and restore individual programs and files.

FANUC ROBOGUIDE Simulation Software

2 Credits/60 Clock-Hours

This course will provide procedures for creating a HandlingPRO virtual workcell. When completed, the workcell created will contain a FANUC robot with end-of-arm tooling, one or more fixtures for holding a part, and a robot TPP Program which moves the part from one fixture to the other. Prerequisite: CTRL2500 FANUC Basic Programming.

Objectives:

- Create a new workcell.
- Edit the robot properties.
- Add a part and objects to the workcell.
- Add End-of-arm Tooling to the robot.
- Add a pick fixture to the workcell.
- Add a place fixture to the workcell.
- Create a robot program.
- Create a program using Draw Features on Part.
- Run the programs.
- Use Task Profiler to analyze program run.
- Create a program to pick and place random parts.
- Create an AVI of the workcell.
- Add a second robot to the workcell.
- Setup extended axis and add 2nd & 3rd motion group, then create machines for the 7th axis and motion groups.
- Create a program that will trace lines and move blocks.

Robot Vision and Safety

1 Credits/30 Clock-Hours

This course covers the basic tasks and procedures required for an operator, technician, engineer, or programmer to set up, teach, test, and modify iRVision applications and FANUC Dual Check Safety (DCS) software. Upon successful completion of this course, students can identify the components of a vision system, install vision hardware, develop an application, program the robot, perform error recovery procedures, and follow recommended safety practices. Prerequisite: CTRL2500 FANUC Basic Programming.

Objectives:

- View and/or change robot and computer parameters to facilitate access to the robot's web page.
- Set up a camera.
- Perform an inspection vision process.
- Understand basic vision concepts and lighting.
- Master a robot using vision mastering.
- Create tool frame for the robot applicator.



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Controls Engineering Technology
FY2023 / 20 Credits (600 Clock-Hours)

- Create user frames necessary for use with the vision system.
- Calibrate a camera.
- Set up a 2D single-view vision process.
- Program the robot to respond to vision results.
- Understand the DCS menus.
- Set up and Modify DCS General parameters.
- Set up position check functions.
- Recover from DCS alarm.
- Modify DCS Zone Checks.
- Setup Stop Position Prediction.
- Create User Models and User Frames.
- Set up and modify Speed Check parameters.
- Set up and Modify DCS Safe I/O parameters.

FANUC Advanced Programming

1 Credits/30 Clock-Hours

Advanced programming is the next step after a basic programming class. Topics from the previous classes will be used in this class to develop a more complex scenario. Students will be given a hypothetical example workcell. They will then be given the task of creating all the necessary programs to deal with multifaceted issues using advanced programming techniques. Prerequisite: CTRL2500 FANUC Basic Programming.

Objectives:

- Manipulate frames related to programming issues.
- Demonstrate advanced program control structures.
- Establish PLC Robot communication using User Operator Panel.
- Master the robot.
- Establish Ethernet communication.
- Set payload and payload change.
- Set tool frame offsets.
- Apply reference positions.
- Pull parts through a predefined system.
- Set up multi-tasking operations.
- Design and implement methods for Error Recovery.

Manufacturing Analytics

2 Credits/60 Clock-Hours

This course will provide students with experience working with data as a control systems technician. Students will become familiar with the types of tasks which will be required of control systems technicians working with data in manufacturing. Students will learn several manufacturing data concepts while using multiple sets of data based on real-world scenarios, and apply the principles learned using real world systems.

Objectives:

- Analyze data from multiple real-world manufacturing scenarios for multiple real-world manufacturing purposes.
- Present findings using an Human Machine Interface (HMI) or a Data Visualization program.
- Setup data transfer from a Programmable Logic Controller (PLC)-driven manufacturing system to a database table or spreadsheet.



Utah System of Higher Education

Controls Engineering Technology
FY2023 / 20 Credits (600 Clock-Hours)

Special Apps for Controls

6 Credits/180 Clock-Hours

This course provides students unique controls skill development identified as an immediate need in the current occupational industry or as needed for prerequisite training in the Controls Engineering Technology certificate. Specific course objectives will be documented and when possible, a descriptive title will be provided for the student transcript. Credit will be given in 30 hour increments up to a maximum of 180 hours.

Objectives:

- These will be determined on an individual course basis and will be made known to the student upon instructor approval of the course to be taken or the skill to be developed.



Utah System of Higher Education

Data Analytics

FY2023 / 15 Credits (450 Clock-Hours)

Data Analytics			
Institutions: Bridgerland			
<i>Certificate of Program Completion (Catalog Year: 2023, 15 Credits/450 Clock-Hours Required, CIP: 30.7101)</i>			
Core (11 Credits/330 Clock-Hours)		Credits	Clock-Hours
DATA 1010	SQL Fundamentals	2	60
DATA 1020	Data Visualization Fundamentals	2	60
DATA 1030	Python Programming	3	90
DATA 1040	Advanced Python for Data Analytics	2	60
DATA 2050	Capstone Project I	2	60
Core (4 Credits/120 Clock-Hours Required)		Credits	Clock-Hours
BTEC 2140	Spreadsheets II	2	60
DATA 1035	Machine Learning (Python)	2	60
DATA 1050	Web Marketing Analytics	2	60
DATA 1065	Manufacturing Analytics	2	60
DATA 1070	R for Data Analytics	2	60
DATA 2010	Advanced SQL	2	60
DATA 2020	Advanced Data Visualization	2	60
DATA 2055	Capstone Project II	2	60
DATA 2901	Special Applications	4	120
DATA 2999	Externship	3	135



Utah System of Higher Education

Data Analytics

FY2023 / 15 Credits (450 Clock-Hours)

PROGRAM DESCRIPTION

Data Analytics prepares both experienced and inexperienced students with the necessary skills to become skilled data practitioners in business, manufacturing, management, and marketing environments. The self-paced, competency-based curriculum provides extensive hands-on training, text work, computer simulation, and one-on-one teacher to student training. This certificate introduces students to the knowledge, skills, abilities, and tools relevant to data analytics such as: initiating data projects, sourcing data, transforming data, analyzing data, and presenting data. This program supports the Bridgerland Technical College mission to deliver competency-based, employer-guided career and hands-on technical education to the Bear River Region.

Objectives:

- A graduate will demonstrate the ability to perform gap analyses on data sets, identify missing/appropriate data in order to solve business problems.
- A graduate will demonstrate the ability to extract, collect, clean, and test data.
- A graduate will demonstrate the ability to transform data by merging and splitting data sets in addition to creating new variables.
- A graduate will demonstrate the ability to analyze data by applying questions to data, separating anomalies, and running tests.
- A graduate will demonstrate the ability to communicate data stories through the production and reporting of clear data visualizations, dashboards, reports, charts, graphs, and animations.
- A graduate will demonstrate how to keep data safe and secure.
- A graduate will demonstrate the ability to create and maintain databases.

COURSE DESCRIPTIONS

SQL Fundamentals

2 Credits/60 Clock-Hours

This course will familiarize students with concepts of relational databases and how to access this data using SQL queries. Students will learn how to pull and process data. A series of database application projects will teach students to pull data, filter data, aggregate data, and join data. Students will also learn how to restore a database and save queried data to a database. They will also learn basic navigation within the database. Students will build working knowledge and hands-on familiarity with SQL using Microsoft SQL Server.

Objectives:

- Connect to a SQL Server.
- Source data from a SQL server.
- Use basic queries, filters, and joins to pull relevant data.

Data Visualization Fundamentals

2 Credits/60 Clock-Hours

This course teaches key principles in analyzing data using visualizations and presenting data to a client. Students will learn foundational principles of data visualization and telling a story using data. They will then learn more advanced data visualization techniques through Tableau and Microsoft Power BI data visualization software.

Objectives:

- Apply principles of visualization to tell an informative story using data.
- Produce basic visualizations using data visualization software.
- Demonstrate proficiency in pulling data from a SQL database into data visualization software.
- Demonstrate the ability to produce different visualizations using data from a SQL database.



Utah System of Higher Education

Data Analytics

FY2023 / 15 Credits (450 Clock-Hours)

Python Programming

3 Credits/90 Clock-Hours

This course introduces the Python programming language. Topics include basic Python syntax, procedural programming concepts, data types (lists and dictionaries), decision and control structures, functions, and file I/O. Students will also be introduced to using the NumPy library to execute multidimensional mathematical operations on data, and conduct basic statistical analysis.

Objectives:

- Install Python.
- Write basic Python code to structure, clean, and analyze data.
- Use file I/O to import data.
- Use basic statistical functions from the NumPy library to analyze data.

Advanced Python for Data Analytics

2 Credits/60 Clock-Hours

This course builds upon the principles taught in Python Programming. Students will learn to access a SQL database using Python. They will build on their knowledge of the NumPy library and extend their knowledge of Python with common Python libraries essential for data analytics including regex and pandas. Students will use these libraries to source, clean, transform, and analyze data from a SQL database.

Objectives:

- Write code that uses regular expressions to extract and manipulate text data.
- Import and export data using pandas.
- Create, manipulate, and filter data frames using pandas.
- Generate summary statistics to quickly analyze data using pandas.

Capstone Project I

2 Credits/60 Clock-Hours

In this course, students will select their own dataset and go through the complete data life cycle. They will collect, clean, transform, analyze, and visualize data using the tools and techniques learned throughout the program. They will then present their findings using a visualization tool of their choice.

Objectives:

- Apply techniques learned throughout the program to collect, clean, transform, analyze, and visualize real world data.
- Present findings using a visualization tool.

ELECTIVES (4 Credit hours/120 Clock-hours Required)

Spreadsheets II

2 Credits/60 Clock-Hours

Spreadsheets Apps II is a continuation from Microsoft Spreadsheets I and is designed to provide students with an advanced knowledge of formatting techniques, spreadsheet functions, analysis tools, and management techniques.

Objectives:

- Apply advanced formatting techniques, functions, and formulas.
- Create, format, and filter Tables and PivotTables.
- Use data analysis features to create scenarios, reports, and variable data tables.
- Protect and share worksheets and workbooks.
- Automate repetitive tasks and customize Excel workbooks.
- Import, export, and distribute data.



Utah System of Higher Education

Data Analytics

FY2023 / 15 Credits (450 Clock-Hours)

Machine Learning (Python)

2 Credits/60 Clock-Hours

This course teaches the basics of machine learning using the Python library SKLearn. Students will learn to pre-process data, differences between various algorithms, and ways to validate a model. The course will also introduce students to some complications that arise when interpreting the output of a machine learning model.

Objectives:

- Demonstrate a knowledge of the differences between major machine learning algorithms.
- Use Python to pre-process data in preparation for use in machine learning.
- Train multiple machine learning models using real-world data.
- Use accepted methods of model validation.

Web Marketing Analytics

2 Credits/60 Clock-Hours

This course will provide students with experience working as a data practitioner in the field of web marketing. They will become familiar with the types of tasks which will be required of data practitioners working in manufacturing. Students will go through the data life cycle with multiple sets of data based on real-world scenarios.

Objectives:

- Apply techniques learned throughout the program on data sets from the field of web marketing.
- Analyze data from multiple real-world scenarios.
- Use visualizations to describe the data and present findings.

Manufacturing Analytics

2 Credits/60 Clock-Hours

This course will provide students with experience working as a data practitioner in the field of manufacturing. They will become familiar with the types of tasks which will be required of data practitioners working in manufacturing. Students will go through the data life cycle with multiple sets of data based on real-world scenarios.

Objectives:

- Apply techniques learned throughout the program on data sets from the field of manufacturing.
- Analyze data from multiple real-world scenarios.
- Present findings using a visualization tool.
- Setup data transfer from a PLC-driven manufacturing system to a database using Kepware.
- Analyze data in a manufacturing optimization scenario.
- Analyze data in a manufacturing predictive maintenance scenario.

R for Data Analytics

2 Credits/60 Clock-Hours

This course will teach basic statistical analysis and visualization techniques using R. The course will begin with installing R. Students will then learn R syntax and how it differs from Python and other languages. Students will also learn file I/O, data manipulation, and a variety of visualization techniques.

Objectives:

- Learn the basics of coding in R.
- Import data into R.
- Manipulate data using dplyr.
- Visualize data in tidyverse.



Utah System of Higher Education

Data Analytics

FY2023 / 15 Credits (450 Clock-Hours)

Advanced SQL

2 Credits/60 Clock-Hours

The course is designed to build familiarity with E-R database modeling, database creation, database maintenance, and database optimization. Database architectures including the client/server model and distributed database model are presented.

Objectives:

- Create a SQL database using (industry standard software).
- Structure a database using industry optimization techniques.
- Insert data into a student created database.

Advanced Data Visualization

2 Credits/60 Clock-Hours

This course will teach advanced Tableau and Power BI options for managing, processing, analyzing, and visualizing data. Students will learn advanced techniques to import and manipulate data. They will also create, format, and annotate visualizations.

Objectives:

- Import data from a live SQL database into Tableau and Power BI.
- Create visualizations that tell a story about data using Tableau and Power BI.
- Use annotation tools.

Capstone Project II

2 Credits/60 Clock-Hours

Students will expand their Capstone Project by further refining a stage(s) in the data life cycle such as: data collection, data cleaning, data transformation, data visualization, and/or data storytelling. They will then present how they expanded upon their data project from Capstone I.

Objectives:

- Apply techniques learned throughout the program to collect, clean, transform, and analyze real world data.
- Present findings using a visualization tool.

Special Applications

4 Credits/120 Clock-Hours

This course gives students the opportunity to apply what they have learned in an industry setting. Specific course competencies will be documented. Course length is not to exceed 120 hours.

Objectives:

- Course objectives will be determined on an individual course basis according to the specific knowledge, skill, or ability desired by the student. All course objectives, outcomes, and hours are subject to approval by the Data Analytics' program department head.

Externship

3 Credits/135 Clock-Hours

Students will gain real-world experience by applying classroom knowledge such as data collection, data cleaning, data transformation, data visualization, and/or data storytelling into a non-simulated work environment. Work-based activities will be provided by the cooperating business.

Objectives:

- Apply techniques learned throughout the program to collect, clean, transform, and analyze real world data.
- Present findings using a visualization tool.



Utah System of Higher Education
Fashion Merchandising and Development
FY2023 / 30 Credits (900 Clock-Hours)

Fashion Merchandising and Development			
Institutions: Bridgerland			
<i>Certificate of Program Completion (Catalog Year: 2023, 30 Credits/900 Clock-Hours Required, CIP: 52.1902)</i>			
Core (26 Credits/780 Clock-Hours)		Credits	Clock-Hours
FASH 1101	Introduction to Fashion	2	60
FASH 1105	Apparel Industry	3	90
FASH 1301	Strategies of Selling	2	60
FASH 1350	Social Media Marketing	1	30
FASH 1400	Textiles	2	60
FASH 1500	Fashion Styling	2	60
FASH 1512	Professional Development	2	60
FASH 1610	Promotional Event Planning	3	90
FASH 1700	Visual Merchandising	3	90
FASH 1721	Beginning Sewing	3	90
FASH 2300	Product Development	3	90
Elective (4 Credits/120 Clock-Hours Required)		Credits	Clock-Hours
ACCT 2110	Introduction to Entrepreneurship	2	60
FASH 1620	Digital Illustration	3	90
FASH 1640	Editorial Production and Design	1	30
FASH 1780	Advanced Sewing	3	90
FASH 2510	Historic Costume	2	60
FASH 2901	Special Applications FASH	4	120
FASH 2998	Fashion Merchandising Internship Ext	2	90
MDTC 1020	Graphic Design Applications I	3	90



Utah System of Higher Education

Fashion Merchandising and Development

FY2023 / 30 Credits (900 Clock-Hours)

PROGRAM DESCRIPTION

Fashion Merchandising and Development prepares students with the knowledge and skill-set necessary to be successful in the Fashion Industry in the following categories: retailing, promotion, visual merchandising, design, and entrepreneurship. Students will work with a teaching staff of industry professionals that emphasize hands-on instruction and provide competency-based training. From working on a full-scale fashion show production to creating window displays or constructing garments, students will work in a hands-on environment that allows them to explore their creativity while obtaining the skills necessary to enter the workforce in the fashion and associated industries. Upon completion of this competency-based certificate, past students have gained employment as a retail salesperson or manager, visual merchandiser, wardrobe stylist, costume technician or event coordinator to list a few.

Objectives:

- Graduates will demonstrate proficiency in marketing concepts, retail merchandising, selling techniques, styling methods, and visual presentation through hands-on assessments and creation of projects.
- Graduates will develop promotional and event production skills through planning, producing and promoting a full-scale fashion show production.
- Graduates will comprehend and illustrate effective use of the principles and elements of design by creating products, presentations, and displays through comprehensive assignments, projects, and tests.
- Graduates will show growth in professional development as it relates to communication skills, presentation methods, time management, and organization through instructor observations, evaluations, and an industry related internship.

COURSE DESCRIPTIONS

Introduction to Fashion

2 Credits/60 Clock-Hours

Students will dive into the diverse careers found in the fashion industry within the areas of design, business, inspiration and conception, and retail. Students will develop an economic outlook of the fashion industry and research current events and other news in the fashion industry. Students will identify similarities and differences between multiple careers while researching the job details and experience or education required to obtain a career in that field. Students will then search for a current job opportunity in the career of their choice that suits their interests and skills.

Objectives:

- Identify current trends and newsworthy events or developments in the fashion industry.
- Compare and contrast multiple careers to identify similarities and differences between them.
- Identify personal skills and strengths that are suited for a particular career and research a current job opportunity in that area.
- Outline the educational and professional experience required to obtain a career in the area of your choice.

Apparel Industry

3 Credits/90 Clock-Hours

Students will be introduced to the apparel industry through construction details, apparel terminology, designer research, and presentation techniques. From production to marketing. They will also learn how historical events from the 20th century influenced these areas to the present and how fashion history showcases itself in the apparel industry today. Students will also learn how fashion designers from different parts of the world impacted the industry. Students will have the opportunity to forecast a trend and design a corresponding 10-piece collection of apparel that will be marketed to a target audience.



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FY2023 / 30 Credits (900 Clock-Hours)

Objectives:

- Identify key apparel styles and construction details using correct terminology.
- Describe how important historical events and designers have influenced the apparel industry over time.
- Design an apparel collection based on research and trend forecasting for a specific target market.

Strategies of Selling

2 Credits/60 Clock-Hours

Students will be introduced to important areas of selling, including buying behaviors and motives, successful sales techniques, and preparation for sales presentations. Students will learn how to effectively approach and communicate with customers and clients to identify their needs, build trust, close sales, and develop a relationship to encourage their return. Students will also review the mathematics of selling and their applications in areas such as balancing cash drawers, making change, and calculating discounts and commission.

Objectives:

- Identify different types of customers and how to cater to their needs.
- Perform an effective sales presentation for a specific merchandise category.
- Calculate sales transactions, decimals, discounts, and other calculations based on selling scenarios provided.

Social Media Marketing

1 Credits/30 Clock-Hours

Students will be introduced to the core concepts of the influencer world and social media marketing. After learning the core concepts that lead to a successful social media marketing plan, students will develop a marketing plan for a new or existing business or brand. This process will include the following components: conducting a business/product needs analysis, developing a strategy, generating content, creating a posting calendar, and measuring the effectiveness of the strategy where possible.

Objectives:

- Conduct research to identify the needs of a new or existing business.
- Develop a social media marketing plan to satisfy business needs and goals.
- Design content for selected social media platforms through text, print, and visual mediums.
- Present marketing plan to your peers for feedback.
- Measure effectiveness of marketing strategy.

Textiles

2 Credits/60 Clock-Hours

Students will study fibers in order to understand the characteristics, properties, and care of major textiles. They will also identify appropriate types of fibers, fabrics, and construction methods for specific garments to achieve proper fit, quality, and style. Students will also research and develop ideas based on the latest advancements in the textile industry.

Objectives:

- Match physical fabrics to the appropriate name and identify the type of construction.
- Demonstrate the process of weaving, by creating paper versions of basic weaves.
- Identify appropriate fiber and fabric properties to apply in apparel design and selling interactions.
- Identify accurate care instructions and symbols for specific fabrics.
- Research and identify a new textile technology advancement in the industry.



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Fashion Styling

2 Credits/60 Clock-Hours

Students will learn how to take body measurements, calculate proportions, and assess figure types. Students will use shape relationships and elements of design to create the illusion of balanced figure types or portray a certain character, trend, or style. Students will put these methods to work by acting as a freelance stylist for a personal wardrobe consultation and a corporate client ad campaign. They will also learn and apply best practices for contract development as a freelance fashion stylist in mock scenarios.

Objectives:

- Perform a successful body measurement skills pass off.
- Identify figure types and body proportions using body measurements.
- Coordinate a wardrobe presentation for a mock client.
- Prepare a styling presentation for a mock corporate ad campaign.

Professional Development

2 Credits/60 Clock-Hours

Students will learn to create professional resumes, write cover letters, and complete job applications specific to their individual career focus. Students will also learn how to apply best practices of social media and technology to market their professional skills and experience in pursuit of a career. In addition, they will learn effective ways to communicate in management and leadership scenarios. Students will have the opportunity to develop effective interview techniques and follow-up procedures through a mock interview.

Objectives:

- Identify preferred career paths and create a social media presence for associated professional skills and experience.
- Create a professional resume and cover letter.
- Demonstrate effective interview techniques and apply appropriate follow-up procedures with potential employers.
- Showcase appropriate communication skills verbally and nonverbally through case scenarios.
- Identify appropriate levels of professional relationships between managers and co-workers.
- Demonstrate ability to conduct effective employee reviews with professionalism and sensitivity for areas of conflict.

Promotional Event Planning

3 Credits/90 Clock-Hours

Students will develop the necessary skills to plan, produce, and execute a promotional fashion show. They will demonstrate their skills and knowledge of promotion by working on the overall theme, advertising and marketing elements, choreography, merchandise and music selection, and merchandise preparation of the fashion show. Students will also develop project management skills by creating a team calendar to manage all important assignments and planning deadlines.

Objectives:

- Compile trend forecasting research for the current season.
- Develop a theme that could be implemented with a specified budget.
- Create social media posts and advertising elements for a BTECH fashion show.
- Plan and produce a promotional window display for a BTECH fashion show.
- Implement project management skills while working as a team on a BTECH fashion show.

Visual Merchandising

3 Credits/90 Clock-Hours

Students will focus on the development of creative concepts and visual presentation of merchandise and apparel. Students will learn the key principles and elements of design and discover how retailers use



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these principles and elements to present merchandise. Overall brand concepts, color psychology, fixtures, atmospherics, drafting, and display techniques will be covered. Students will receive hands-on experience in merchandise presentation and display.

Objectives:

- Identify the principles and elements of design in advertising and retail window displays.
- Differentiate between feature and capacity fixtures used in retail operations.
- Create an effective themed visual presentation of merchandise, accessories, and props for a display and planogram layout.
- Develop an overall retail store concept that includes merchandise categories, pricing, floor layout, fixtures, and atmospherics.

Beginning Sewing

3 Credits/90 Clock-Hours

Students will be introduced to basic sewing techniques, sewing equipment, and operations of a sewing machine and serger. They will learn how to apply body measurements, reading, pattern layout, and fabric selection to different garment types. Students will also create samples for a variety of sewing techniques and construct two simple garments using a commercial pattern.

Objectives:

- Identify the parts and correct operations of a basic sewing machine and serger.
- Evaluate the characteristics, performance, and care of specific textiles.
- Determine the most efficient layout for a commercial pattern.
- Demonstrate specific sewing techniques through two customized sewing practicums.
- Produce two quality garments using proper construction techniques and seam finishes for the fabric types.

Product Development

3 Credits/90 Clock-Hours

Students will learn the process of product development from research to production and distribution. They will learn the roles of the key positions within the apparel industry and the part they play to produce a product. Students will conduct market research and develop ideas for a line of goods to produce. Students will then learn the steps of production through material sourcing, manufacturer selection, sample creation, and distribution. Students will also learn best practices for contracts and negotiations in regards to product development.

Objectives:

- Identify the roles of the key positions in the apparel industry and steps necessary to produce a sample garment or other fashion-related item.
- Select appropriate companies/facilities to source raw goods and produce specific merchandise.
- Identify appropriate distribution policies and channels for a selected product.
- Outline the required steps to produce a product for the creation of a specific line of goods.

ELECTIVES (4 Credit hours/120 Clock-hours Required)

Introduction to Entrepreneurship

2 Credits/60 Clock-Hours

This course is designed to help you know what it takes to start a business, how to elaborate on your own business idea(s), and decide whether or not your business ideas have marketability. As you develop your ideas, you will learn how to brand a business and gain a basic understanding of what it takes to run a business before you start spending money. You will also have networking opportunities with local business owners and classmates along the way.



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Objectives:

- Complete a competitive analysis of local businesses.
- Create a business strategy.
- Project your business's expenses and income.
- Follow the brainstorming process of creating a business name and brand strategy.
- Determine the target market for your business.
- Create a sales strategy for your business.

Digital Illustration

3 Credits/90 Clock-Hours

Students will learn the basics of navigating and creating in CLO, a cutting-edge, 3D fashion design software. Using CLO, students will learn how to create and/or modify 2D pattern pieces, sew pattern pieces together, and simulate those garments in 3D. Students will have the opportunity to expand their design capabilities, produce faster and more accurate apparel renderings, and obtain skills that industry leaders are actively seeking.

Objectives:

- Demonstrate your ability to operate CLO design software.
- Modify and/or create functioning patterns and 3D apparel renderings in CLO.

Editorial Production and Design

1 Credits/30 Clock-Hours

Students will uncover the world of editorials during this course. They will have the opportunity to create a mock editorial for a high fashion magazine or website. Students will learn all the elements needed to create an effective editorial using appropriate copy, graphics, and layout standards. They will research a current trend in the fashion industry and develop a theme to use in their feature. Students will then learn the basic types of editorials and key design steps used to create aesthetically pleasing and effective content for an article/editorial feature in a magazine or website.

Objectives:

- Research trends and develop a theme for an editorial feature.
- Select a specific type of editorial and create an effective editorial feature for a high fashion magazine or website.
- Present a clear, informed story using professional and creative copy alongside strong visual imagery.

Advanced Sewing

3 Credits/90 Clock-Hours

This course will provide an extension of sewing skills gained in Beginning Sewing by focusing on clothing construction, fit, and design consideration at the advanced level. The focus will be aimed toward but not limited to outdoor gear style.

Objectives:

- Distinguish different types of fabric and fiber characteristics used in the sports and outdoor apparel industry.
- Demonstrate knowledge and ability to produce and improve pattern alterations for an accurate fit.
- Demonstrate correct sewing construction techniques at the intermediate level to complete three functional garments.

Historic Costume

2 Credits/60 Clock-Hours

This course covers the history of dress from the ancient world to the 19th century. The costume of each period is viewed within its historical, cultural, and economic context. Students will use their historical costume knowledge to design costumes for stage and film purposes.



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Fashion Merchandising and Development

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Objectives:

- Develop a basic vocabulary of the styles worn during each of the historical periods.
- Identify silhouettes, details, fibers, and material used for each period.
- Identify correct styles of clothing and accessories that were adopted by members of social groups that were socially appropriate for specific times and situations.
- Design costumes with proper historical design elements for a specific theater or film character.

Special Applications FASH

1-4 Credits/ 30 -120 Clock-Hours

This course provides students unique or advanced skill development identified as an immediate need in the current occupational industry. Specific course competencies will be documented and when possible, a descriptive title will be provided for the student transcript. Course length is not to exceed 180 hours.

Fashion Merchandising Internship Ext

2 Credits/90 Clock-Hours

Students will learn the practical application of classroom skills through real workplace situations. They will develop real-world work experience using decision-making, critical thinking, and problem-solving skills. Real client business projects will be assigned to the student by cooperative businesses and students will receive objective input on their performance. Customized student learning objectives will be developed addressing the individual needs of the organization and career interests of each student.

Objectives:

- Create personalized objectives (with on-site representative/supervisor) to be accomplished during the internship.
- Demonstrate competency in all skill areas being evaluated by on-site representative/supervisor.
- Maintain proper attendance and communication for the duration of the internship.
- Demonstrate ability to receive constructive criticism and improvement suggestions.
- Utilize soft and technical skills to successfully complete your objectives by the end of the internship.

Graphic Design Applications I

3 Credits/90 Clock-Hours

A course designed to teach fundamental techniques and principles for editing images. Creation of digital and photo images from scanning or video capture will also be covered.

Objectives:

- Use a computer system for editing digital images.
- Learn and operate current industry image editing software.
- Print digital images.
- Scan images.
- Use a digital camera.



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Interior Design
FY2023 / 39 Credits (1200 Clock-Hours)

Interior Design			
Institutions: Bridgerland			
<i>Certificate of Program Completion (Catalog Year: 2023, 39 Credits/1200 Clock-Hours Required, CIP: 5010408)</i>			
Core (39 Credits/1200 Clock-Hours)		Credits	Clock-Hours
IDES 1010	Design Theory	4	120
IDES 1025	Color Theory	1	30
IDES 1035	Rapid Sketching	2	60
IDES 1045	Materials & Sources	4	120
IDES 1050	Textiles & Pattern Development	1	30
IDES 1060	Building Codes	1	30
IDES 1070	Space Planning & AutoCAD	5	150
IDES 1080	SketchUp Pro	3	90
IDES 1090	REVIT Basics	4	120
IDES 1105	Architectural Detailing	5	150
IDES 1110	Senior Project	5	150
IDES 1120	Product Development & Portfolio	1	30
IDES 1130	Business Practices	1	30
IDES 2998	Interior Design Internship	2	90
Elective (0 Credits/0 Clock-Hours Required)		Credits	Clock-Hours
ACCT 2110	Introduction to Entrepreneurship	2	60
IDES 2999	Client Projects	2	90
IDES 1160	Field Trips	1	30



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Interior Design

FY2023 / 39 Credits (1200 Clock-Hours)

PROGRAM DESCRIPTION

Interior Design prepares students for a fast-paced, competitive industry that demands high professional standards. Students will be introduced to the latest and most relevant 3D software programs in the design industry such as: Photoshop, Illustrator, InDesign, AutoCAD, Revit, and SketchUp Pro. The learning environment is project-based, focusing on creative and technical skills while applying software programs. Coursework includes design theory, space planning, architectural detailing, building codes, and calculations. Students are mentored by industry professional instructors who provide one-on-one support.

Qualifying students will be provided with client projects, field trips, and possible internships at the Las Vegas World Market. Upon completion of this competency-based certificate, students are prepared to begin their career in the Interior Design industry.

Objectives:

- Graduates will demonstrate competency in creative and technical skills by taking a client's inspiration to a complete design concept.
- Graduates will prepare and present client projects demonstrating professionalism in verbal and visual communication and personal appearance.
- Graduates will utilize 3D consulting software for client presentations to introduce new product designs as well as construction designs.
- Graduates will demonstrate confidence in presenting design concepts to others for feedback and critique.
- Graduates will demonstrate the ability to read, understand, and develop effective construction documents.
- Graduates will develop professional business, leadership, and communication skills by planning, organizing, and participating with design teams for client projects.

COURSE DESCRIPTIONS

Design Theory

4 Credits/120 Clock-Hours

Students will learn the design process and elements of design theory to create original designs. Students will study current and relevant design styles, furniture styles, and roof shapes. They will also learn to use industry software such as Adobe Photoshop, Illustrator, InDesign, and Homestyler to apply design theory and technical software skills to 3D design renderings. Students will develop strong presentation skills by providing visual and verbal communication of their final design concepts while justifying their design decisions.

Objectives:

- Learn to correctly apply technical skills such as scale, proportion, light, shadows, and perspective realism in basic 3D perspective room renderings.
- Show proficiency in the basic principles of graphic design and branding.
- Demonstrate and further enhance creativity by completing the steps of the design process and applying techniques learned from the course.
- Learn to identify and apply key features of architecture, roof styles, and design styles through research and application of these features in individual designs.
- Demonstrate and further develop skills in professional communication by presenting final projects and justifying design decisions.

Color Theory

1 Credits/30 Clock-Hours

Students will explore the basics of color theory, beginning with the color wheel and the role of psychology in the human response to color. Students will also learn to identify tints, tones, and shades of colors



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through color selections and applications in designs. Students will assess design aesthetics and apply appropriate color harmonies and combinations to enhance or subdue a design.

Objectives:

- Identify tints, tones, and shades of color and their effects.
- Determine the role of various color combinations in enhancing and subduing designs.
- Create unique color harmonies and trend colors using color inspirations.
- Develop and apply color schemes to designs.
- Use color psychology to appropriately select and apply color to design projects.

Rapid Sketching

2 Credits/60 Clock-Hours

Students will learn to quickly sketch realistic one- and two-point perspectives in the correct scale to communicate design concepts to clients and team members. Students will practice quick, timed sketching and rapid rendering techniques using black sketching pens and markers. Students will learn to sketch architectural features applying the principles of line, texture, pattern, and shadow.

Objectives:

- Quickly sketch one- and two-point perspective drawings with architectural details, furniture, and accents.
- Use correct scale and proportion to sketched elements using a black pen and marker to show quick sketching techniques, such as shadows, depth, and texture.
- Complete timed rapid sketches in 15-minute and 3-minute practices.
- Apply appropriate design elements and principles in hand-rendered interior design sketches.

Materials & Sources

4 Credits/120 Clock-Hours

Students will research materials and products used for residential and commercial spaces. Students will learn each material's correct function and purpose by compiling industry standard specification sheets and researching requirements for installation and maintenance. Students will also learn how to source materials available for the residential and commercial markets and gain a greater understanding of labor costs and trending products. They will learn how to calculate product costs using specific formulas.

Objectives:

- Research and identify the best materials and sources for finish materials and products in residential and commercial interior/exterior projects.
- Identify new products, techniques, finishes, and innovations in the design market.
- Evaluate price and quality differences between interior and exterior finishes.
- Determine how fabrication, installation, and other specifications impact material selection.
- Apply correct measurement and calculation formulas to specific products for accurate quantities.

Textiles & Pattern Development

1 Credits/30 Clock-Hours

Students will learn the history of textiles and the influences cultures had on the construction and application of textiles in interior design. Students will also identify the role of fibers and weaves in fabric construction and the use of various types of fabrics and patterns best used. Students will apply product development to design a textile pattern, manufacture their own textile sample, and render their textile design in a way that best showcases their product line.

Objectives:

- Identify the correct construction and application of textiles used for residential and commercial designs.



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Interior Design

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- Select different types of weaves and construction of fabrics to be used for the correct applications for furniture, window coverings, upholstery, accent pillows, and bedding.
- Create a textile pattern that can be developed into a product line and render the product into an interior design of choice.

Building Codes

1 Credits/30 Clock-Hours

Students will learn the process of finish material estimating and ordering procedures for installation. Students will become proficient in estimating and ordering finishes, including flooring, window and wall coverings, draperies, paint, and upholstery. They will also gain an understanding of building codes as they relate to finish materials and project installation. Students will demonstrate mastery of calculating estimates and identifying building code violations through mock-client scenarios.

Objectives:

- Calculate material estimates for a variety of finishes based on mock-client scenarios.
- Apply appropriate building codes while placing finish materials on floor plans.
- Analyze and effectively plan for finish materials within a client's budget.
- Identify areas of concern on floor plans and use building codes to correct building violations.

Space Planning & AutoCAD

5 Credits/150 Clock-Hours

Students will learn space planning rules to organize unique and creative spaces and design layouts of interior residential and commercial projects. Building codes, ADA accessibility requirements, environmental concerns, and occupancy standards will be used to organize residential and commercial interior spaces. Students will use problem-solving, sketching, and schematic design development to address the needs of clients to effectively organize and design new construction as well as to renovate projects.

Objectives:

- Use current building codes and ADA requirements to organize residential and commercial interior spaces based on the client specifications.
- Organize furniture plans that meet code requirements for clear, easy access and function.
- Apply problem-solving skills during the design phase for resolving problematic floor plans and/or existing spaces.
- Use AutoCAD to draft basic and advanced residential and commercial floor plans with project documents and schedules.

SketchUp Pro

3 Credits/90 Clock-Hours

Students will learn to use SketchUp Pro to import AutoCAD files and create 3D BIM (Building Information Modeling) models of existing floor plans, create new floor plans, and learn to use the software's main modeling features for custom architecture and furniture designs. Students will learn to navigate the SketchUp Pro warehouse for products and materials used to develop 3D renderings. They will learn how to use the 3D walk-through presentation features used for client meetings.

Objectives:

- Import design files from other software programs to be edited or added to using SketchUp Pro software.
- Apply knowledge of architecture and design elements to new build designs and create new floor plans.
- Create custom architecture and furniture using the SketchUp Pro BIM modeling software.
- Apply product materials to final renderings and navigate multiple presentation modes for client presentations.



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Interior Design

FY2023 / 39 Credits (1200 Clock-Hours)

REVIT Basics

4 Credits/120 Clock-Hours

Students will learn how to use Autodesk 3D design software, Revit, to draft a large commercial office design. Basic Revit software will be instructed to apply advanced space planning concepts and commercial building codes. Students will learn how to apply Revit materials and create schedules for the project. Students will learn to render their projects in Revit for professional, visual presentations. The instruction in this course will prepare students for more advanced Revit training introduced in a later course.

Objectives:

- Use Revit 3D software to design and draft floor plans using current building codes.
- Apply materials and products effectively, create schedules, and design drawings for a set of professional construction documents.

Architectural Detailing

5 Credits/150 Clock-Hours

Students will use Revit to draft architectural detailed drawings and build MEP (HVAC, Electrical, and Plumbing) systems for commercial projects. They will draft working documents to include footings/foundations, sills, floors, walls, ceilings, windows, doors, roofs, electrical, plumbing, and climate control HVAC systems with their appropriate architectural symbols. Students will draft detailed drawings and elevations for architectural features such as stairs, fireplaces, and custom cabinets.

Objectives:

- Design and draft working construction documents based on industry standards using 3D Revit software, and current building codes.
- Label and specify all details and dimensions needed for furniture and other systems located in each space of a floor plan.
- Apply correct architectural symbols and dimensions to construction systems, detail drawings, interior and exterior elevation drawings, and working construction documents.
- Read, understand, and communicate the architectural details, systems, and codes on working drawings for residential designs.

Senior Project

5 Credits/150 Clock-Hours

In this course students will demonstrate mastery of all skills developed throughout the program. The senior project includes a large residential project using Revit. This final project must include the elements and principles of design, color theory, rapid sketching, materials and sources, textiles, building codes, space planning, architectural detailing, and product development. This final project will determine whether the student has learned the necessary skills required by industry leaders to be an interior designer.

Objectives:

- Provide research and inspiration for design, development, and refinement using the design process.
- Communicate the design process from rapid sketches and preliminary drawings to technical drawings and 3D renderings.
- Develop floor plans, elevations, construction plans, and final design renderings based on current code restrictions and applications.
- Manage budgets through calculations of square footages and material cost estimates.
- Source samples of products and provide construction and installation schedules and specifications.
- Apply appropriate building codes in detailed construction plans.
- Use Revit to create professional design plans and documents.



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Interior Design

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- Create a professional presentation of the design process and final product for a class critique with project branding.
- Communicate the design concepts and elements of final design projects professionally, visually, and verbally.
- Provide sourced product and material samples for presentation value and physical communication of design elements.

Product Development & Portfolio

1 Credits/30 Clock-Hours

Students will use Adobe InDesign to compile their best product development designs and organize their approved portfolio assignments in a physical portfolio and on a web E-portfolio platform. Advanced graphic design skills will be used to design both the physical portfolio and E-portfolio. Students will use professional, personal branding, and marketing skills to promote both portfolios and to organize bodies of work. Professional resumes will be created to best represent the skill sets of each student. These will be promoted on social media platforms such as Indeed, LinkedIn, Instagram, and Facebook.

Objectives:

- Apply graphic design skills and training to market and promote product designs and design concepts.
- Develop professional portfolios and magazine spreads using Adobe InDesign.
- Build an easy-to-use, online web E-portfolio with an E-commerce option that can be added to and/or edited.
- Create a professional resume and promote it on social media platforms for future employment opportunities.

Business Practices

1 Credits/30 Clock-Hours

Students will be introduced to the business aspects of interior design. Students will learn how to apply professional best practices in social media management, interview and employment strategies, freelance work, collaboration with vendors, building and leading a design team, ethical business procedures, industry safety, client relationships, and personal branding. Students will have the opportunity to practice effective interviewing techniques in mock interviews as they job shadow a designer or specific business, create reports on vendors, and develop a business plan. Students will create professional business documents, such as a list of services, contracts, and invoices.

Objectives:

- Develop and practice proper interviewing techniques.
- Identify best practices in social media usage.
- Determine the different ways of building your own business or clientele.
- Identify key ethical and industry-standard business practices.
- Determine how to effectively brand yourself and/or your business.
- Create a vendor/trades list and project management schedules.

Interior Design Internship

2 Credits/90 Clock-Hours

Students will research potential internship opportunities based on their preference for employment and arrange a minimum of 90 hours to work as an intern. This hands-on training is an opportunity for students to secure a position or future employment at a workplace of their choice. The department head must approve all internships prior to students arranging the internship. Students will check in with an instructor each week of their internship to ensure that the objectives are being met and allow for any mentoring.

Objectives:

- Contact potential employers to promote themselves as future employees.



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Interior Design

FY2023 / 39 Credits (1200 Clock-Hours)

- Provide professional portfolios and resumes for internships and job interviews.
- Demonstrate competency in all industry design software, attention to detail, problem-solving and time management.
- Apply design training, creative innovation, and technical design concepts to projects and/or assist on projects.
- Apply all required employment skills to each day of the internship.

NON-REQUIRED ELECTIVES (0 Credit hours/0 Clock-hours Required)

Introduction to Entrepreneurship

2 Credits/60 Clock-Hours

This course is designed to help you know what it takes to start a business, how to elaborate on your own business idea(s), and decide whether or not your business ideas have marketability. As you develop your ideas, you will learn how to brand a business and gain a basic understanding of what it takes to run a business before you start spending money. You will also have networking opportunities with local business owners and classmates along the way.

Objectives:

- Complete a competitive analysis of local businesses.
- Create a business strategy.
- Project your business's expenses and income.
- Follow the brainstorming process of creating a business name and brand strategy.
- Determine the target market for your business.
- Create a sales strategy for your business.

Client Projects

2 Credits/90 Clock-Hours

Students that have demonstrated sufficient competency may have the opportunity to work on client design projects. Students will apply all prior training and skills to develop the design concept, manage the design project, conduct client meetings, and presentations, source products, coordinate with vendors, collaborate with design team members, participate in follow-up meetings, and address all client concerns in a professional ethical manner.

Objectives:

- Demonstrate ability to take the lead on a design project.
- Identify challenges and solutions in scheduling, budgeting, and effectively managing time.
- Create design concepts and client presentations using industry-standard software.
- Demonstrate responsibility, professionalism, and respect while working with industry professionals.
- Organize and manage the project details, install, and/or stage a completed design project.
- Demonstrate customer service skills with follow-up meetings and daily and weekly correspondence.

Field Trips

1 Credits/30 Clock-Hours

Students who have a satisfactory progress ratio, positive attendance record, and have shown excellence in the quality of their work, can qualify to attend department organized field trips. Field trips include visiting national and local conferences and firms. Students will have the opportunity to connect with industry leaders and vendors. In preparation for making these connections, students will prepare a professional portfolio and resume to share with potential employers or internship providers.

Objectives:

- Apply real-life experience to their portfolios and resumes.



Utah System of Higher Education

Interior Design

FY2023 / 39 Credits (1200 Clock-Hours)

- Make contacts and connections with industry leaders for potential future employment.
- Organize internship opportunities.
- Create vendor lists for trades accounts and designer discounts.



Utah System of Higher Education

Meat Services

FY2023 / 29 Credits (900 Clock-Hours)

Meat Services			
Institutions: Bridgerland			
<i>Certificate of Program Completion (Catalog Year: 2023, 29 Credits/900 Clock-Hours Required, CIP: 12.0506)</i>			
Core (27 Credits/840 Clock-Hours)		Credits	Clock-Hours
MEAT 1010	Introduction to Meat Services	2	60
MEAT 1020	Safety	3	90
MEAT 1030	Equipment	3	90
MEAT 1040	Beef Cutting I	4	120
MEAT 1050	Beef Cutting II	4	120
MEAT 1060	Pork & Lamb Cutting	5	150
MEAT 1070	Value Added Products	4	120
MEAT 2998	Packaging & Presentation	2	90
Elective (2 Credits/60 Clock-Hours Required)		Credits	Clock-Hours
ACCT 2110	Introduction to Entrepreneurship	2	60
MEAT 1300	Retail	2	60
MEAT 2999	Meat Services Internship	2	90



Utah System of Higher Education

Meat Services

FY2023 / 29 Credits (900 Clock-Hours)

PROGRAM DESCRIPTION

The Meat Services program at Bridgerland Technical College provides students the opportunity to obtain a certificate in the meat services industry. Highly skilled, industry-trained instructors guide students through hands-on and individualized instruction to meet the occupational goals of each student. Topics include knife care, meat inspection, sanitation, equipment, wholesale and retail operations, custom harvesting, custom cutting, pricing, cured/smoked meats, ground meats, beef, pork, and poultry. Students will also learn basic cooking skills needed to prepare and serve meat products. This program supports the Bridgerland Technical College mission to deliver competency-based, employer-guided career and hands-on technical education to the Bear River Region.

Objectives:

- Graduates will safely operate, clean, and maintain knives and meat processing equipment.
- Graduates will demonstrate an understanding of harvesting principles for beef, pork, and lamb.
- Graduates will safely demonstrate how to grade, breakdown, produce cuts (retail and custom), package, and sell beef products.
- Graduates will safely demonstrate how to grade, breakdown, produce cuts (retail and custom), package, and sell pork products.
- Graduates will safely demonstrate how to grade, breakdown, produce cuts (retail and custom), package, and sell lamb products.
- Graduates will safely demonstrate how to trim and package poultry products for retail sale.

COURSE DESCRIPTIONS

Introduction to Meat Services

2 Credits/60 Clock-Hours

The Introduction to Meat Services course provides career and program orientation for those pursuing a retail meat cutting career. Students will learn the basic sanitation principles required before they can work on the floor. They will be oriented to the floor, shop, kitchen, and other program workspaces. They will also learn about common retail and wholesale career paths for meat cutters.

Objectives:

- Demonstrate a professional level of hygiene.
- Demonstrate industry sanitation techniques.
- Identify potential career opportunities.

Safety

3 Credits/90 Clock-Hours

The Safety course introduces students to safety regulations for the meat industry for those pursuing a career in the meat industry. Students will learn basic workplace safety and meat industry safety and demonstrate knowledge of safety standards. Students will learn about state food and health safety requirements and will also successfully acquire a food handler's permit. They will also learn lifting, allergen, and hazard analysis critical control point (HACCP) safety. Students will learn and demonstrate basic knife care and safety.

Objectives:

- Students will care for and learn safe use of knives.
- Obtain a food handler's permit.
- Demonstrate safety procedures for handling and packaging meat.
- Demonstrate basic food and shop safety techniques.



Utah System of Higher Education

Meat Services

FY2023 / 29 Credits (900 Clock-Hours)

Equipment

3 Credits/90 Clock-Hours

The Equipment course provides students with an introduction to the different types of equipment used in the meat industry, how to safely use each of them, and how to care for them. Students will learn how to properly use and maintain equipment such as the grinder, tenderizer, and the smoker. They will also learn correct equipment assembly and disassembly.

Objectives:

- Identify uses of equipment commonly used by meat cutters.
- Safely use equipment to prepare various cuts of meat.
- Properly care for, clean, and store equipment.

Beef Cutting I

4 Credits/120 Clock-Hours

The Beef Cutting I course introduces students to the basic principles of beef cutting and provides basic skills necessary to work in the meat cutting industry. Students will gain realistic experiences working with beef in a laboratory setting, including beef harvesting and identification of various beef cuts. Students will participate in lab experiences while learning to break carcasses into wholesale parts. Students will learn about and demonstrate beef retail skills. They will also learn and demonstrate sanitation skills.

Objectives:

- Understand beef wholesale and custom meat cutting.
- Learn and understand the inspection process.
- Demonstrate the ability to correctly identify beef cuts.
- Demonstrate competencies preparing ground meats for retail.

Beef Cutting II

4 Credits/120 Clock-Hours

The Beef Cutting II course focuses on and reinforces improving students' basic skills and principles of beef cutting learned in the Beef Cutting I course. Students will gain realistic experiences in a laboratory setting working with beef. Students will learn the process of custom cutting as detailed by the clients served. They will also learn the best practices of cooking each type of beef cut and will demonstrate competency preparing them to assist customers in a shop.

Objectives:

- Demonstrate competencies in following custom instructions.
- Opportunity to pass off and demonstrate proficiency in harvesting skills.
- Demonstrate competency in preparing retail, wholesale, and custom beef cuts.
- Demonstrate competencies required for inspection, sanitation, grading, and yielding.

Pork & Lamb Cutting

5 Credits/150 Clock-Hours

The Pork & Lamb cutting course introduces students to the basic principles of pork and lamb cutting and provides basic skills necessary to work in retail meat cutting. Students will gain realistic experiences working with pork and lamb in a laboratory setting. Students will participate in lab experiences while learning to break carcasses into wholesale parts, including primal, sub-primal. They will also learn the best practices of cooking pork and lamb and demonstrate competency in this while preparing to assist customers in a shop.

Objectives:

- Opportunity to pass off and demonstrate proficiency in harvesting skills.
- Understand pork wholesale and custom meat cutting.
- Demonstrate competency in preparing retail, wholesale, and custom pork and lamb cuts.
- Understand lamb wholesale and custom meat cutting.



Utah System of Higher Education

Meat Services

FY2023 / 29 Credits (900 Clock-Hours)

- Demonstrate the ability to correctly identify pork and lamb cuts.

Value Added Products

4 Credits/120 Clock-Hours

The Value Added Products course focuses on and reinforces improving students' basic skills and principles of meat cutting and allows students to work with meat and cuts that were not covered in other courses. With such a wide variety of meats available, this course teaches students how to apply what they have learned in the other courses and allows them to practice those skills with regards to miscellaneous cuts. Students will gain experience working with seasonal and custom cuts.

Objectives:

- Demonstrate competency in utilizing offal, and producing/preparing marinated products, jerky, various sausages, and smoked products.
- Demonstrate competency in evaluating yield and calculating prices of value added products.
- Demonstrate the ability to correctly identify cuts.

Packaging & Presentation

2 Credits/90 Clock-Hours

The Packaging & Presentation course introduces students to the basic principles of meat packaging and presentation. Students will practice and demonstrate the ability to independently prepare retail cuts of meat from carcass animals or boxed products, and properly label and price the products. Students will develop essential knowledge of retail procedures including packaging, pricing, and displaying products in a retail environment. Students will also gain basic experience working in a retail setting with customers.

Objectives:

- Demonstrate skills in packaging and displaying beef, pork, lamb, and poultry.
- Understand concepts in meat pricing.
- Fulfill orders and complete custom cut requests.

ELECTIVES (2 Credit hours/60 Clock-hours Required)

Introduction to Entrepreneurship

2 Credits/60 Clock-Hours

This course is designed to help you know what it takes to start a business, how to elaborate on your own business idea(s), and decide whether or not your business ideas have marketability. As you develop your ideas, you will learn how to brand a business and gain a basic understanding of what it takes to run a business before you start spending money. You will also have networking opportunities with local business owners and classmates along the way.

Objectives:

- Complete a competitive analysis of local businesses.
- Create a business strategy.
- Project your business's expenses and income.
- Follow the brainstorming process of creating a business name and brand strategy.
- Determine the target market for your business.
- Create a sales strategy for your business.

Retail

2 Credits/60 Clock-Hours

The Retail course introduces students to the basic principles of meat retail. Students will work to develop essential knowledge of retail procedures including packaging, pricing, displaying products, and customer service in a retail environment. Students will improve on and strengthen skills acquired in the Packaging & Presentation course. Students will also prepare to work with customers in a shop, learning proper



Utah System of Higher Education

Meat Services

FY2023 / 29 Credits (900 Clock-Hours)

customer service skills, such as greeting customers, answering customer questions, and ringing up the customers' orders on the cash register.

Objectives:

- Demonstrate proper meat packaging and display techniques.
- Students will learn how to properly rotate stock to ensure fresh product.
- Students will learn about pull dates and how to handle the product after it's been pulled.
- Students will demonstrate proper customer service skills.
- Students will learn and demonstrate proper sanitation of display cases.

Meat Services Internship

2 Credits/90 Clock-Hours

Students will learn the practical application of classroom skills through real workplace situations. They will develop real-world work experience using decision-making, critical thinking, and problem-solving skills. Real client business projects will be assigned to the student by cooperative businesses and students will receive objective input on their performance. Customized student learning objectives will be developed addressing the individual needs of the organization and career interests of each student.

Objectives:

- Create personalized objectives (with supervisor) to be accomplished during the internship.
- Demonstrate competency in all skill areas being evaluated by supervisor.
- Maintain proper attendance and communication for the duration of the internship.
- Demonstrate ability to receive constructive criticism and improvement suggestions.
- Utilize soft and technical skills to successfully complete your objectives by the end of the internship.



Utah System of Higher Education

Esthetician

FY2023 / 16 Credits (600 Clock-Hours)

Esthetician			
Institutions: Davis			
<i>Certificate of Program Completion (Catalog Year: 2023, 16 Credits/600 Clock-Hours Required, CIP: 12.0409)</i>			
Core (16 Credits/600 Clock-Hours)		Credits	Clock-Hours
PREF XXXX	Foundations	1	30
PREF XXXX	Basic Theory I	4	120
PREF XXXX	Basic Theory II	4	120
PREF XXXX	Basic Clinical I	3	135
PREF XXXX	Basic Clinical II	3	135
PREF XXXX	Basic Clinical III	1	60
Non-Required Electives (0 Credits/0 Clock-Hours Required)			
<i>Davis Technical College</i>			
PREF XXXX	Esthetics Clinical Practice I	0	9
PREF XXXX	Esthetics Clinical Practice II	0	27
PREF XXXX	Esthetics Clinical Practice III	1	60
PREF XXXX	Lash Extension Course	0	15
PREF XXXX	Advanced Waxing	0	15



Utah System of Higher Education

Esthetician

FY2023 / 16 Credits (600 Clock-Hours)

PROGRAM DESCRIPTION

The Esthetician program prepares students to enter the world of skin care, and natural nail care by teaching the required skills for success in a competitive industry. Students will develop communication skills, professional behavior, and the core skills of working in or building a spa business. Students will work with spa guests in a modern, well-equipped spa and will perform these skills with the newest techniques, products, and equipment in the industry. At the end of the program, students will be qualified to take the Basic Utah State Esthetician Licensing Exams.

Objectives:

- Demonstrate esthetic skills such as: communication skills, professional behavior, facials, manicures, and pedicures, skin care massage, chemical peels, microcurrent facials, hair removal, makeup, body treatments
- Explain general sciences related to Esthetics such as: anatomy, infection control, skin structure, skin diseases and disorders, chemistry, and electricity
- Demonstrate spa processes and etiquette with proper sanitation procedures necessary for the health and safety of spa guests and self
- Perform esthetic services on manikins and spa guests
- Communicate effectively with spa guests and colleagues
- Demonstrate communication skills through electronic, verbal, and written formats
- Prepare for the state board licensure exam

COURSE DESCRIPTIONS

Foundations

1 Credit/30 Clock-Hours

This course prepares students to enter the world of skin care, and natural nail care, by teaching the required skills for success in a competitive industry.

Objectives:

- Demonstrate communication skills and professional behavior
- Develop the core skills of working in or building a spa business

Basic Theory I

4 Credits/120 Clock-Hours

This course introduces the basic procedures of skin care. This includes an understanding of the basic structure, composition of the skin, and maintenance of healthy skin. Students will demonstrate and explain theory and practical application procedures associated with the basic needs of the skin.

Objectives:

- Identify the factors that influence aging of the skin
- Recognize which skin disorders can be treated in the spa and which should be referred to a physician
- Demonstrate proper set-up, cleaning, and disinfection during treatments
- Perform various types of basic esthetic services
- Demonstrate and explain basic theory, practical application, and procedures associated with basic skin care
- Demonstrate and learn practical applications while working on course related content
- Students will demonstrate competency through assignments, testing, and practical application

Basic Theory II**4 Credits/120 Clock-Hours**

This course introduces advanced topics, treatments, and nutritional effects of the skin. This includes basic hands-on techniques. Students will demonstrate and explain theory and practical application procedures associated with the basic needs of the skin.

Objectives:

- Demonstrate essential business skills
- Communicate effectively with spa guests
- Comprehend the importance of meeting industry standards of quality, professionalism, efficiency, sanitation, and safety in preparation for entering the esthetician industry
- Demonstrate and explain basic theory, practical application, and procedures associated with basic skin care
- Demonstrate and learn practical applications while working on course related content
- Students will demonstrate competency through assignments, testing, and practical application

Basic Clinical I**3 Credits/135 Clock-Hours**

This course applies the principles and practices learned in the Basic Theory I and II. Students will begin to provide spa services in a clinical setting. Students will provide a variety of services on spa guests and models.

Objectives:

- Demonstrate spa processes and etiquette
- Communicate effectively with spa guests and colleagues
- Demonstrate sanitation procedures
- Safety and preparation for entering the esthetic industry

Basic Clinical II**3 Credits/135 Clock-Hours**

This course applies the principles and practices learned in the Basic Theory I and II. Students will perform a variety of services on spa guests. This course will help prepare students for client work and building a clientele.

Objectives:

- Demonstrate spa processes and etiquette
- Communicate effectively with spa guests and colleagues
- Demonstrate sanitation procedures
- Safety and preparation for entering the Esthetic industry
- Continue practical application and procedures on spa guests

Basic Clinical III**1 Credits/60 Clock-Hours**

This course applies the principles and practices learned in the Basic Theory I and II. Students will perform a variety of services on guests in a spa-like setting.

Objectives:

- Demonstrate spa processes and etiquette
- Communicate effectively with spa guests and colleagues
- Demonstrate sanitation procedures
- Safety and preparation for entering the Esthetic industry
- Continue practical application and procedures on spa guests

NON-REQUIRED ELECTIVE COURSE DESCRIPTIONS

Davis Technical College

Esthetics Clinical Practice I

0 Credits/9 Clock-Hours

In the esthetician clinicals, you will apply the principles and practices learned in the Esthetician I and II courses as you perform a variety of services on clients in the cosmetology salon. The clinical will help prepare you to pass the State of Utah licensure exams.

Objectives:

- Demonstrate practical interviewing, retailing, and marketing skills
- Demonstrate spa processes and etiquette
- Communicate effectively with spa guests and colleagues
- Demonstrate proper sanitation procedures
- Demonstrate safety and prepare to enter the Esthetic industry
- Continue practical application and procedures on spa guests

Esthetics Clinical Practice II

0 Credits/27 Clock-Hours

In the esthetician clinicals, you will apply the principles and practices learned in the Esthetician I and II courses as you perform a variety of services on clients in the cosmetology salon. The clinical will help prepare you to pass the State of Utah licensure exams.

Objectives:

- Demonstrate practical interviewing, retailing, and marketing skills
- Demonstrate spa processes and etiquette
- Communicate effectively with spa guests and colleagues
- Demonstrate proper sanitation procedures
- Demonstrate safety and prepare to enter the Esthetic industry
- Continue practical application and procedures on spa guests

Esthetics Clinical Practice III

1 Credits/60 Clock-Hours

In the esthetician clinicals, you will apply the principles and practices learned in the Esthetician I and II courses as you perform a variety of services on clients in the cosmetology salon. The clinical will help prepare you to pass the State of Utah licensure exams.

Objectives:

- Demonstrate practical interviewing, retailing, and marketing skills
- Demonstrate spa processes and etiquette
- Communicate effectively with spa guests and colleagues
- Demonstrate proper sanitation procedures
- Demonstrate safety and prepare to enter the Esthetic industry
- Continue practical application and procedures on spa guests

Lash Extension Course

0 Credits/15 Clock-Hours

This course prepares students to apply semi-permanent lashes.

Objectives:

- Demonstrate proper sanitation for lash extension application
- Demonstrate proper lash extension application
- Demonstrate proper removal of lash extensions
- Demonstrate proper fill of lash extension application

Advanced Waxing**0 Credits/15 Clock-Hours**

In this course, you will learn to apply principles and practices learned in Basic Esthetics I, II, & III and Master Esthetics I, II, & III.

Objectives:

- Continue to build on basic waxing techniques
- Demonstrate proper sanitation for hair removal
- Demonstrate proper application of waxing techniques
- Demonstrate proper removal of waxing techniques



Utah System of Higher Education

Home Health Aide

FY2023 / 10 Credits (300 Clock-Hours)

Home Health Aide			
Institutions: Davis			
<i>Certificate of Program Completion (Catalog Year: 2023, 10 Credits/300 Clock-Hours Required, CIP: 51.2602)</i>			
Core (10 Credits/300 Clock-Hours)		Credits	Clock-Hours
HOHA 1110	Nurse Assistant & Home Health Aide	5	150
HOHA 1510	Nurse Assistant & Home Health Aide Skill Lab	4	120
HOHA 1900	Nurse Assistant Certification Evaluation	1	30



Utah System of Higher Education

Home Health Aide

FY2023 / 10 Credits (300 Clock-Hours)

PROGRAM DESCRIPTION

The home health aide is an important member of the health care team directly involved with patient care of physically or mentally challenged individuals who need help with personal care, activities of daily living, and simple household chores. The Home Health Aide program prepares students to seek employment in residential care facilities, hospice settings, and clients' homes. During the program, students will develop strong communication techniques and learn the basic nursing skills necessary to become certified as a nurse assistant in the State of Utah. Students will demonstrate proficiency in providing basic personal cares including bathing, showering, grooming, and other personal hygiene tasks, as well as develop skills for basic household tasks such as cooking and meal preparation, light cleaning, and doing laundry. Students will develop an understanding of basic household safety and complete a ServSafe course on food safety. Upon successful completion of the program, students will be recommended to take the UNAR State Certification exam to become a certified nurse assistant in the State of Utah and will receive a food handlers' permit from the Utah Department of Health.

Objectives:

The mission of this program is to enable the home health aide to demonstrate the knowledge, skills and professionalism required by employers and residents, protect certified nurse assistants' rights to practice, and promote effective, efficient healthcare delivery in a variety of healthcare settings. In this course you will participate in hands-on skills practice, take written assessments, and review textbook and vocabulary assignments. Upon completion of this program, students will have received specialized training to be a home health aide. In the Home Health Aide program, students will be enrolled in 300 hours of training, 115 of which is course-specific certified nurse assistant training (90 in classroom instruction and 25 in clinical practice). Throughout this training, students will have the opportunity to:

- Apply basic nursing skills necessary to gain employment in long-term care facilities, home health, hospice, and acute care settings
- Develop and enhance communication and interpersonal skills necessary to function as a caregiver and member of an interdisciplinary healthcare team
- Perform tasks that meet the psychological, social, physical, and spiritual needs of those they are caring for
- Demonstrate competency in basic nursing skills in preparation for completion of UNAR state certification testing

COURSE DESCRIPTIONS

Nurse Assistant & Home Health Aide

5 Credits/150 Clock-Hours

Nurse Assistant examines the holistic approach to safely caring for patients in a variety of settings. While in this course, you will analyze how healthcare systems operate and how to function efficiently within a facility. You will also practice how to work on a healthcare team to meet the patient needs. After completing this course and passing a state certification examination, you will play an essential role on a healthcare team by observing, reporting, and performing skills studied within this course.

Objectives:

- Explore how to safely care for patients and residents in a variety of healthcare settings
- Recognize the skills needed to pass the State of Utah Certified Nurse Assistant (C.N.A.) examination administered by UNAR
- Identify the skills and knowledge necessary to be an essential part of the healthcare team and meet the needs of patients and residents



Utah System of Higher Education

Home Health Aide

FY2023 / 10 Credits (300 Clock-Hours)

Nurse Assistant and Home Health Skill Lab

4 Credits/120 Clock-Hours

Nurse Assistant and Home Health Aide Skill Lab examines the holistic approach to safely caring for patients in a variety of settings. While in this course, you will demonstrate and practice the skills necessary to provide patient care in a variety of healthcare settings including long-term care, home care, and hospice. You will also practice how to work on a healthcare team to meet the patient needs. After completing this course and passing a state certification examination, you will play an essential role on a healthcare team by observing, reporting, and performing skills studied within this course.

Objectives:

- Demonstrate how to safely care for patients and residents in a variety of healthcare settings
- Perform the skills needed to pass the State of Utah Certified Nurse Assistant (C.N.A.) examination administered by UNAR
- Apply the skills and knowledge necessary to be an essential part of the healthcare team and meet the needs of patients and residents

Nurse Assistant Certification Evaluation

1 Credit/30 Clock-Hours

The Nurse Assistant Certification Evaluation requires students to develop their hands-on skills before moving forward to the Utah Nurse Assisting Registry (UNAR) certification. This final evaluation will help prepare students for the skills that may be evaluated under UNAR guidelines. This preparation will include evaluation on hands-on skills associated with vital signs, beginning and ending procedures, communication, hand-washing, basic safety, moving and positioning, restorative care, hygiene and grooming, nutrition, elimination, infection prevention, and end of life care.

Objectives:

- Categorize the structure of the healthcare system and the nursing assistant's role in the healthcare team.
- Develop an understanding of rehabilitation and restorative care and demonstrate competency with common assistive devices and equipment.
- Demonstrate professionalism, including an understanding of HIPAA and the nursing assistant's role in protecting privacy and confidential information.
- Employ communication skills necessary to function as a caregiver that are culturally sensitive.
- Identify personal and environmental infection control measures and minimize potential hazards that may occur in any care settings.
- Demonstrate how a Certified Nursing Assistant can make a patient/resident's environment comfortable, safe, and clean.
- Describe basic nutrition, intake and output, and diet necessities or food preferences.
- Explain the significance of OSHA, the Omnibus Budget Reconciliation Act (OBRA), and the role of the Utah Nursing Assistant Registry (UNAR).
- Demonstrate the skills needed to pass the State of Utah Certified Nurse Assistant (C.N.A.) examination administered by UNAR



Utah System of Higher Education

Injection Molding

FY2023 / 20 Credits (600 Clock-Hours)

Injection Molding			
Institutions: Davis			
<i>Certificate of Program Completion (Catalog Year: 2023, 20 Credits/600 Clock-Hours Required, CIP: 15.0607)</i>			
Core (17 Credits/510 Clock-Hours)		Credits	Clock-Hours
INJM 1000	Basic Injection Molding Machine Operations	2	60
MATH 0900	Computational Math	1	30
INJM 1011	Practical Injection Molding	2	60
INJM 1022	Injection Molding Changeovers	2	60
INJM 1103	Standardized Process Tests	2	60
INJM 1111	Process Development and Decoupled Molding	2	60
INJM 1130	Basic Automation for Injection Molding	1	30
INJM 1040	Injection Molding Auxiliary Equipment	1	30
INJM 1123	Injected Molded Part Problems and Solutions	1	30
WKSK 1400	Workplace Success	2	60
WKSK 1500	Job Seeking Skills	1	30
Electives (3 Credits/90 Clock-Hours)			
INJM 1030	Economics of Injection Molding Operations	1	30
INJM 1050	Hot Runner Molding Solutions	1	30
INJM 2910	Injection Molding Externship	2	90
INJM 1135	Introduction to 3D Printing	2	60
INJM 1151	Injection Molding Student Project	1	30
INJM 1250	Fluid Power Hydraulics	2	60
INJM 2000	Advanced Process Development	2	60
IAMT 2025	Industrial Robotics	3	90



Utah System of Higher Education

Injection Molding

FY2023 / 20 Credits (600 Clock-Hours)

PROGRAM DESCRIPTION

The Injection Molding program prepares students for a fun, rewarding, and high-paying career as an injection molding process technician in a growing industry. Currently there are dozens of Utah companies that employ technicians to mold parts used in products ranging from lifesaving medical devices to cars and electronics.

Students will work hands-on with highly trained and skilled instructors on state-of the-art equipment. As part of that training, students will safely setup, operate, and maintain injection molding machines and auxiliary equipment; perform injection molding changeovers; and collaborate with the product development team to improve processes. Students will receive training in operating and programming robotics. During the program, students will prepare capital equipment justifications, to support profitable purchases, and calculate cost estimate used to secure future business. After completing the program, students will work with one of our placement specialists to find employment that utilizes these newly gained skills.

Objectives:

- Practice safety skills in injection molding.
- Start-up, operate, and maintain injection molding machines and auxiliary equipment.
- Perform injection molding changeovers using current written methods, and analyze those methods using Single Minute Exchange of Dies (SMED) to improve changeover processes and documentation
- Prepare capital equipment justifications and cost estimate bids.
- Setup and operate injection molding automation--including servo robots and sprue pickers
- Create robot programs for new operations
- Employ scientific molding principals to develop and improve low variation molding processes
- Demonstrate part defect troubleshooting
- Practice preventative maintenance for injection molding

COURSE DESCRIPTIONS

Basic Injection Molding Machine Operations

2 Credit/60 Clock-Hours

Basic Injection Molding Machine Operations explores how to operate an injection molding machine in a production environment including defect identification, and concepts of quality manufacturing. During this course, you will examine general safety, as well as safety that is specific in an injection molding environment. You will also de-gate and count parts, as well as document running conditions and production numbers while operating a molding cell.

Objectives:

- Identify and properly utilize Personal Protective Equipment (PPE)
- Explain and demonstrated Lock-Out, Tag-Out procedures
- Identify the major components of and injection molding machine
- Describe the function of the major components of an injection molding machine
- Explain and demonstrate the basic injection molding cycle
- Use molding machine controls to operate a molding machine
- Identify basic part defects and list reasons why defects are a problem for molders and customers
- Perform basic part measurement using calipers and a scale
- Explain and perform visual inspection of injection molded parts
- Use quality documents to record critical quality metrics

- Describe mold changing steps and create basic tool change instructions
- Discuss the importance of process setup sheets and production documentation
- Use a process setup sheet to verify the settings of a molding machine and auxiliaries
- Record key data during machine operation on production documents

Computational Math

1 Credit/30 Clock-Hours

Computational Math examines the application of the correct mathematical operation to solve practical problems. During your time in this course, you will use whole numbers, fractions, decimals, and percentages to solve practical problems. You are also introduced to the basics of measurement, geometry, averages, probability, patterns and simple equations.

Objectives:

- Recognize number sense, including rounding and comparing numbers
- Add, subtract, multiply and divide whole numbers and decimals
- Calculate percentages
- Use formulas to find perimeter and area
- Convert measurements

Practical Injection Molding

2 Credits/60 Clock-Hours

Practical Injection Molding explores basic principles of hydraulics and electro-mechanical actuators on molding machine clamp and injection units. Throughout this course, you will study the structure of a mold, including two plate, three plate, and hot runner molds. You will also identify mold parts by disassembling and reassembling a mold. You will examine polymer types and material properties. In addition, you will compare and contrast the differences in amorphous and crystalline materials. You will also verify and change common machine control settings on a molding machine.

Objectives:

- Describe basic principles of hydraulics and electro-mechanical actuators on molding machine clamp and injection units
- Explain how an injection molding machine control is used to control velocities, pressures, and positions
- Describe the function of the plasticizing screw and identify its different sections
- Recognize the structure of a mold, including two plate, three plate, and hot runner molds.
- Identify parts of a mold through disassembly and reassembly of a mold
- Discuss polymer types and material properties, including the difference in amorphous and crystalline materials
- Identify, verify, and change common machine control settings on a molding machine
- Identify the transfer position in a process and explain why it is important

Injection Molding Changeovers

2 Credits/60 Clock-Hours

Students in this course will learn basic procedures to safely and quickly change over a molding cell from one product to another. Students will learn to document the changeover process and improve the speed and accuracy of an injection molding changeover using the SMED improvement process (Single Minute Exchange of Dies). Students will also learn to apply these principles in current and future workplaces.

Objectives:

- List key safety personal protection equipment (PPE) when performing a tool change
- Use Microsoft Office to create professional tool change instruction and setup sheets

- Describe how to safely and effectively change resin in a molding machine from one material to another
- Describe lot traceability for injection molding materials
- List common materials that will cause safety issues if a bridge material is not used
- Explain why a purging compound can reduce overall costs
- Explain how to estimate the weight of a tool and how to select correct clamps and screws for a mold
- Explain why a torque wrench should be used to tighten mold clamp bolts
- Show how to connect the machine ejector plate to the tool ejector plate
- Show how to load mold settings on the molding machine controller for a tool change.
- List the steps in the SMED changeover reduction process
- Demonstrate how to use SMED principals to improve tool changes

Standardized Process Tests

2 Credits/60 Clock-Hours

Students in this course will learn about helpful machine processing tests that facilitate scientific molding in order to pick repeatable injection times. Students will learn how to perform these tests on several machines with several different molds and will also learn how to apply the results of the tests to pick optimal fill time ranges. The process tests include static and dynamic check rings tests, load sensitivity, effective viscosity study, pressure loss study, fill time study, part weight study, screw and barrel study, and melt temperature study.

Objectives:

- Explain the standardized process tests that can be used to select optimal ranges for fill time settings
- Describe conditions required to create a “fill only” process
- Describe effects of changing the transfer position
- Demonstrate:
 - Establishing a “fill only” process
 - Estimation of clamp force requirements
 - Gate seal study
 - Check ring studies
 - Load sensitivity study
 - In-mold rheology study
 - Fill pressure study
 - Pressure loss study
 - Fill time study
 - Cavity imbalance study
 - Injection speed linearity study
- Identify fill times that will result in poor injection repeatability.

Process Development and Decoupled Molding

2 Credits/60 Clock-Hours

Students in this course will learn what scientific molding, or Decoupled Molding (SM), is and how to use the principles to create robust injection molding processes. Students will learn to master skills in processing tools including setting all required molding machine and auxiliary equipment settings. Students will learn to optimize the processes to minimize cycle time and maximum product quality. Students will also learn transfer tools between different injection molding machines and become familiar with the FMEA (Failure Mode and Effects Analysis) and its application in developing robust molding processes.

Objectives:

- Describe:
 - Plastic temperature, flow rate, pressure gradient, and cooling rate
 - Applications that benefit from parallel motion
- Explain the following:
 - Use of FMEA (Failure Modes and Effect Analysis) analysis to create key process controls
 - Use of designed experiments to refine molding processes
 - Setting parameters on different machines to create identical plastic processing conditions
- Identify key parameters where process alarms are useful
- Identify key process conditions that must be documented
- Demonstrate the following:
 - Process development using the systematic approach
 - Scientific molding processes
 - Process refinement
 - Documentation of processes
 - Creation of machine independent, universal setup sheets
 - Saving and backup of machine settings files
 - Transferring a process and mold to another molding machine
 - Reduction in setup time

Basic Automation for Injection Molding

1 Credit/30 Clock-Hours

Students in this course will learn to perform basic setup and operation of sprue pickers and injection molding takeout robots. Students will learn the basics of the robot interface plug, dummy plugs, and how to work safely around robots. Students will learn how to setup a sprue picker for operation with a two-plate mold and a three-plate mold. Students will participate in activities that will help them understand how a robot or sprue picker can save money and improve quality. Students will learn how to use a reject chute or reversing conveyor.

Objectives:

- Describe:
 - Differences between a sprue pickers and a three axis takeout robots
 - Importance of safety guarding
- Identify:
 - Reduction or increase of cycle time with the use of a takeout robot
- Demonstrate:
 - Verification of robot safety interlocks
 - Manual and automatic robot operation
 - Robot teaching
 - Sprue picker setup
 - End of arm tooling changeover
 - Setup of vacuum gripper settings
 - Setup of mechanical gripper position verification
- Explain:
 - Operation of the robot-IMM electrical interface plug
 - How a robot can be used to prevent loss of part orientation
 - Differences between teaching data and robot programs

Injection Molding Auxiliary Equipment

1 Credit/30 Clock-Hours

Students in this course will learn about common auxiliary equipment found in molding cells including granulators, dryers, mold temperature controllers, sprue pickers, chillers, cooling towers, hot runner controls, hopper loaders and hydraulic core units. Students will learn the main functions of each of these machines and how they add value to the molding process. Students will also learn to operate the auxiliary equipment in the molding lab by performing changeovers and learning to set parameters on the equipment.

Objectives:

- Explain:
 - Dryer moisture removal method
 - Mold temperature controller methods of heating and cooling process water
 - Process cooling using chillers and cooling towers
 - Volumetric feeder operation
 - Gravimetric blender operation
 - Auxiliary hydraulic core unit function
- Demonstrate:
 - Prepare, use, and changeover a resin dryer
 - Correct use of a moisture analyzer
 - Cleaning, setup and maintenance of hopper loaders and vacuum resin conveying systems
 - Process Cooling and Heating
 - Proper use of hot runner controllers.
 - Safe operation of a granulator.
 - Cleaning and changeover of a granulator.
 - Measurement and hand blending of virgin resin and colorants.
 - Connection, setup, start and stop of mold temperature controllers.
 - The function of color meters, gloss meters, and tensile testing equipment.
 - Safe removal of stuck sprues using sprue pulling pliers.
 - Starting and stopping of a sprue picker.
- Describe the difference between an open and closed fluid process.
- Identify applications to volumetric and gravimetric blenders.
- Identify sprue pickers, takeout robots, conveyors, and tote indexing equipment.

Injected Molded Part Problems and Solutions

1 Credits/30 Clock-Hours

Injected Molded Part Problems and Solutions examines the common defects found in injection molded parts. During this course, you will explore the causes of common defects like, burn marks, cracking, flash, jetting, short shots, sink marks, splay, dimensions issues, voids, warp and weld lines. At the end of this course, you will propose, test, and implement process and tooling solutions to eliminate defects when faced with different defects in an existing process.

Objectives:

- Describe and identify common injection molding defects
- Identify the key molding parameters that cause specific molding defects
- Demonstrate methods used to solve the following defects:
 - Flash
 - Short Shots
 - Sinks
 - Dimensional Problems

- Warping
- Demonstrate the use of cause-and-effect diagrams and analysis to identify the cause of common molding defects
- Explain how to eliminate defects and prevent reoccurrence

Workplace Success

2 Credits/60 Clock-Hours

Workplace Success is designed to help students develop essential work habits and attitudes as well as human-relation skills needed to maintain gainful and satisfying employment. Topics include common challenges faced in the workplace, such as presenting yourself professionally, developing a professional work ethic, developing interpersonal skills, navigating office politics successfully, and planning and managing your career.

Objectives:

- Demonstrate a positive attitude and set and accomplish personal and career goals
- Manage time, stress, organization, and finances
- Explain conflict resolution, negotiation, and communication in the workplace
- Display a strong work ethic and illustrate accountability
- Perform work within a group effectively and discuss the value of negotiation and compromise
- Describe the basics of public speaking and presenting a professional demeanor
- Implement career goals and take active control of professional life

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

ELECTIVES (11 Credits/330 Clock-Hours Required)

Economics of Injection Molding Operations

1 Credit/30 Clock-Hours

Students in this course will learn the major factors the effect a molding operations profitability. Students learn key factors that impact the total cost of a molded part and learn to use key measurables to estimate the total cost of molding. Students will also learn to identify, implement, and measure the results of both capital free and capital-based improvements to a molding operation.

Objectives:

- Explain cycle time, part design, material, and molded part quality effect an operations ability to make money
- Explain key principles of molding profitability to hypothetical employees
- Use a Pareto Chart to identify the most beneficial improvements
- Identify capital improvements to increase profitability
- Estimate product mold cost

- Justify capital improvements
- Measure improvements from capital implementations
- Identify and implement capital free improvements to increase profitability
- Demonstrate and improve tool change skills

Hot Runner Molding Solutions

1 Credit/30 Clock-Hours

Students in this course will learn the details of how hot runners' systems function, how they add value to the molding process, and what potential pitfalls come with hot runner systems. Students will learn about hot runner controllers, cables, and wiring. Hot runner system return on investment will be discussed for manifold systems, valve gate systems, and hot sprue bushings.

Objectives:

- Explain:
 - Thermocouple temperature measurement
 - Thermocouple positioning effects on temperature accuracy
 - Differences between a thermal gate and a valve gated hot tip
 - Gate vestige effect on the performance of molded parts
 - Hot runner systems reduction or elimination of wasted plastic
- Describe:
 - Benefits of hot runner molds over cold runner molds
 - Limitations of hot runner molds in comparison to cold runner molds
 - Gate stringing
 - Advantages of gate placement with hot runner molds
 - Sequential valve gating
- Demonstrate:
 - Startup and Shutdown procedures for a hot runner system
 - Color change process for a hot runner system
 - Calculation of material savings as a result of using a hot runner system
- Identify major components of hot runner systems
- List materials that can be problematic when using hot runners

Injection Molding Externship

2 Credits/90 Clock-Hours

The Injection Molding externship experience helps you transition from a student into a professional role by allowing you to demonstrate the knowledge, skills and professional attributes learned in the program while working in a professional setting. This experience takes place under the supervision of a qualified site supervisor and includes skill practice and evaluation. Faculty members periodically visit the externship site to evaluate your progress and performance. All program course work must be completed prior to enrolling in this course.

Objectives:

- Demonstrate professional and appropriate work habits
- Utilize appropriate Personal Protective Equipment (PPE)
- Demonstrate tool and mold change procedures
- Demonstrate injection molding processes

Introduction to 3D Printing

2 Credits/60 Clock-Hours

In this course students will learn how to be "makers" by using various types of 3D modeling software and imaging equipment, printing actual physical objects that they have designed and modeled themselves.

Objectives:

- Explain how technology shifts throughout history have made 3D printing possible
- Demonstrate the proper setup of a 3d printer
- Explain how to use the principles of Design Thinking and demonstrate design process documentation
- Navigate CAD software
- Explain how the designer's role has evolved over time and how it is likely to change as we move toward mass customization
- Be able to troubleshoot problems with 3d printing and 3d printers
- Successfully 3d print a student rendered design

Injection Molding Student Project

1 Credits/30 Clock-Hours

The Injection Molding Student Project course offers an opportunity to complete a project that is defined by you and your instructor to improve skills in a particular area. You will select the project from an issue that needs to be solved in the lab, the student's employer, or another business seeking help to solve an injection molding problem. Example projects include mold tryouts for prototype tooling, SMED tool change improvements, cycle time optimization, installation of cavity pressure transducers, etc. However, you may only select a project that can be completed in the lab, not at a remote location.

Objectives:

- Develop a project objective
- Create a plan to complete the student project including specific metrics for completion
- Develop a list of required tools, components, and materials required to complete the project
- Complete the project successfully by meeting the established metrics for completion

Fluid Power Hydraulics

2 Credits/60 Clock-Hours

This course is a real world, hands-on approach to learning hydraulic principles and circuitry. Topics include force and energy transmission, identifying American National Standards Institute (ANSI) and International Organization

for Standardization (ISO) hydraulic symbols and understanding how to read and draw the hydraulic schematics. In addition, students will use schematics to construct hydraulic circuits, hydraulic components construction, operation and symbols including prime movers, reservoirs, pumps, gauges, directional control valves, cylinders, motors, and filters.

Objectives:

- Identify hydraulic ANSI and ISO symbols
- Identify different types of cylinders, pumps, and motors
- Explain the difference between controls and actuators
- Install, troubleshoot, and repair hydraulic systems
- Identify the use of force, pressure, and area in a hydraulic system
- Identify GPM, volume, and rod speed in a hydraulic system

Advanced Process Development

2 Credits/60 Clock-Hours

Students in the course will be shown how to use in cavity pressure transducers and control systems to detect part defects, optimize processes, perform gate seal studies, and to create cavity pressure controller velocity to pressure switchover processes. Students will be shown what transducers are available and how they can be implemented in a mold. Students will be shown how to use and RJG

eDART to measure and control processes, operate a reject chute, and transfer a process from one press to another.

Objectives:

- List common types of in cavity sensors
- Explain the use of in cavity sensors to detect general part defects
- Describe
 - Applications of in cavity sensors
 - Pros and cons between direct and indirect sensors
 - Modifications required to install in cavity sensors
 - Applications for in cavity temperature and pressure sensors
 - Optimal sensor locations for both monitoring and control
 - Use of cavity pressure sensors to determine gate seal
 - Balancing of hot runner molds with cavity sensor controls
 - Benefits of using cavity data to match processes
 - Use of in cavity pressure sensors for gate seal determination
- Demonstrate:
 - Use of in cavity sensors to aid in the development of molding processes
 - Operation of data acquisition systems to monitor cavity and auxiliary sensors
 - Use of a baseline or template to compare processes
 - Development of processes that use cavity pressure for V to P switchover
 - Transfer of a processes between presses
- Determine feasibility of process matching between presses
 - Difference between strain gauge and piezo electric transducers

Industrial Robotics

3 Credits/90 Clock-Hours

In this course, students will practice basic sensing and locomotion principles as they control a robotic arm. The students will learn about the different types of robots that are available for industrial and servicing applications that will be used for selected activities from manual robot control to computer program mode. Robot maintenance and servicing activities provide skills for Maintenance Technicians and Engineers. Emphasis is placed with hands on activities using FANUC's R-30i A and R-30i B controllers with classroom M10ia, M1ia, and LR Mate industrial robots. Emphasis is also placed with hands on activities using ABB's S4 and IRC 5 controllers and classroom IRB 140 industrial robots. Certification for FANUC and ABB are available upon completion of course.

Objectives:

- Power up and Jog the Robot
- Recover from common program and robot faults
- Execute production operations
- Create, modify, and execute a material handling program
- Create and execute MACROs
- Monitor, force, and simulate input and output signals
- Backup and restore individual programs and files



Utah System of Higher Education
Manufacturing Technology
FY2023 / 13 Credits (390 Clock-Hours)

Manufacturing Technology			
Institutions: Davis			
<i>Certificate of Program Completion (Catalog Year: 2023, 13 Credits/390 Clock-Hours Required, CIP: 15.0613)</i>			
Core (12 Credits/400 Clock-Hours)		Credits	Clock-Hours
MANT 1010	Introduction to Manufacturing	3	90
MACH 1051	Blueprint Reading	1	30
MANT 1110	Composites for Manufacturing	1	30
IAMT 1201	Automation Maintenance Basics	2	60
MANT 1301	Welding for Manufacturing	2	60
INJM 1000	Basic Injection Molding Machine Operations	2	60
MANT 1600	Machining for Manufacturing	2	60



Utah System of Higher Education

Manufacturing Technology

FY2023 / 13 Credits (390 Clock-Hours)

PROGRAM DESCRIPTION

The Manufacturing Technology program prepares students for high-tech manufacturing careers. In addition to learning how to produce industrial products, students will get hands-on experience in automation, robotics, composite materials technology, plastic injection molding, and welding. Graduates will have foundational skills required for entry-level employment or may continue their education to specialize in any of the instructional areas.

Objectives:

Students will practice through hands-on experience, instructional videos, information sheets, and competency tests. Upon completion of this program or a given certificate, students will have received specialized training in manufacturing technology. Students will learn and apply the following while enrolled in the Manufacturing Technology program:

- Demonstrate basic safety practices used in any manufacturing facility
- Read and use common measuring tools used in manufacturing
- Practice safe and proper use of basic hand and power tools
- Complete a variety of introductory manufacturing assignments using blueprints
- Recognize and work within multiple technology industries

COURSE DESCRIPTIONS

Introduction to Manufacturing

3 Credits/90 Clock-Hours

Introduction to Manufacturing explores common manufacturing processes and how they work together, including automation, machining, composites, and welding. During this course, you will become familiar with measuring tools, hand tools, power tools, and blueprints that are currently used in the various industries through hands-on labs. You will be required to demonstrate personal and machine safety as you complete a variety of activities.

Objectives:

- Demonstrate basic safety practices used in any manufacturing facility
- Use shop math to solve manufacturing related problems
- Read and use common measuring tools used in manufacturing
- Practice safe and proper use of basic hand and power tools
- Describe the basic operation of Lathes and Milling machines
- Become familiar with each industry and how they work together

Blueprint Reading

1 Credit/30 Clock-Hours

Blueprint reading for machinists will familiarize students with how to read and interpret mechanical blueprints. Topics covered in this course include the alphabet of lines, interpreting title block data, reading dimensions, tolerances, and surface finish, and interpreting multiple-view drawings, with sectional, auxiliary and projected views.

Objectives:

- Identify line, lettering, sketching, dimensioning, and title standards used in drafting
- Identify symbols and views used on blueprints
- Calculate missing dimensions on a drawing

- Identify information necessary for production on a drawing
- Define terminology and processes related to manufacturing drawings
- Describe the function of drawings used in manufacturing
- Demonstrate the proper use of linework as they pertain to drawings specifically created for the machining industry
- From a three-dimensional part, determine the various views associated with that part
- Demonstrate how to apply and read dimensioning elements associated with machined parts
- Determine the differences between the American National Standards Institute (ANSI) and the International Standards Organization (ISO)

Composites for Manufacturing

1 Credit/30 Clock-Hours

Composite Basics introduces the basic materials, tools, vocabulary, and safety practices used in the composites industry. Throughout this course, you will examine various composite materials, chemicals, tools, and the procedures and processes of fabrication. You will also practice proper shop etiquette and cleaning.

Objectives:

- Identify the various businesses that employ composite technicians
- Describe the different composite applications within the industry
- Explain the role composites play in today's marketplace
- Identify the various fabric types incorporated in laminations and describe how the different fabrics interact
- Compare several resin systems and identify the parameters necessary to use each resin system
- Describe epoxy resin systems
- Demonstrate the ability to incorporate general shop safety practices
- Identify shop areas and processing equipment by name
- Explain Safety Data Sheets

Automation Maintenance Basics

2 Credits/60 Clock-Hours

Maintenance Basics introduces the basic concepts and terminology used in Automation and Robotics. Throughout this course, you will study basic electrical, Electrical Motor Controls, Programmable Logic Controllers (PLC), HVAC, Pneumatics, Hydraulics, Robotics and Troubleshooting skills.

Objectives:

- Identify maintenance principles including safety and service and repair of electrical systems.
- Discuss electronics and PLCs, HVAC systems
- Describe mechanical systems, robotic systems, and fluid power systems of automation maintenance aspects

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 oxyfuel cutting process terms
- Demonstrate proper equipment setup, usage, cleaning, and break-down

- Discuss and conduct safety inspections of equipment and accessories
- List and describe oxyfuel cutting equipment
- Perform setup, lighting, and use of oxyfuel 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

Basic Injection Molding Machine Operations

2 Credits/60 Clock-Hours

Basic Injection Molding Machine Operations explores how to operate an injection molding machine in a production environment including defect identification, and concepts of quality manufacturing. During this course, you will examine general safety, as well as safety that is specific in an injection molding environment. You will also de-gate and count parts, as well as document running conditions and production numbers while operating a molding cell.

Objectives:

- Identify and properly utilize Personal Protective Equipment (PPE)
- Explain and demonstrated Lock-Out, Tag-Out procedures
- Identify the major components of and injection molding machine
- Describe the function of the major components of an injection molding machine
- Explain and demonstrate the basic injection molding cycle
- Use molding machine controls to operate a molding machine
- Identify basic part defects and list reasons why defects are a problem for molders and customers
- Perform basic part measurement using calipers and a scale
- Explain and perform visual inspection of injection molded parts
- Use quality documents to record critical quality metrics
- Describe mold changing steps and create basic tool change instructions
- Discuss the importance of process setup sheets and production documentation
- Use a process setup sheet to verify the settings of a molding machine and auxiliaries
- Record key data during machine operation on production documents

Machining for Manufacturing

2 Credits/60 Clock-Hours

CNC Machining for Manufacturing will cover the basic procedures to run a CNC mill and Lathes encountered in the machine shop. During this course, you will study topics including instruction in machine startup, loading programs, setting tool offsets, work offsets and basic G code programming. We will also cover basic Programming using a CAM program topic will include basic part creation and programming.

Objectives:

- Use G code programming to create parts
- Create basic tool path using CAM software
- Identify safe practices and clean up procedures in a machine shop

- Demonstrate accurate use and reading of steel rules, micrometers, and calipers to inspect parts while in the machine.
- Demonstrate proper feeds and speeds
- Design parts using CAD software
- Identify proper milling and turning cutters and their application
- Perform basic turning and milling operations



Utah System of Higher Education

Biotechnology

FY2023 / 28 Credits (900 Clock-Hours)

Biotechnology			
Institutions: Dixie			
<i>Certificate of Program Completion (Catalog Year: 2023, 28 Credits/900 Clock-Hours Required, CIP: 41.0101)</i>			
Core (28 Credits/900 Clock-Hours)		Credits	Clock-Hours
PREF XXXX	Fundamentals of Biotechnology	3	90
PREF XXXX	Aseptic Technique	1	30
PREF XXXX	Chemical Instrumentation and Laboratory Techniques	3	90
PREF XXXX	Data Analysis	3	90
PREF XXXX	Quality Control and Manufacturing Practices	3	90
PREF XXXX	DNA Manipulation and Analysis	3	90
PREF XXXX	Protein Purification and Analysis	3	90
PREF XXXX	Cell Culture Techniques	2	60
PREF XXXX	Advanced Nucleic Acid Laboratory	3	90
PREF XXXX	Externship	4	180



Utah System of Higher Education

Biotechnology

FY2023 / 28 Credits (900 Clock-Hours)

PROGRAM DESCRIPTION

The Biotechnology Certificate prepares students to enter into the ever-expanding fields of biotechnology. The possibilities are vast for a career in this area and include genomic mapping and research, pharmaceutical or nutraceutical development, biological research and development, and many of the other fields under this discipline. This program will give students the background to continue on to lab technician work or articulate to another institution to continue their education.

Objectives:

- Fundamentals in Biology
- Laboratory & manufacturing practices
- Laboratory Practice
- Explore and analyze DNA

COURSE DESCRIPTIONS

Fundamentals of Biotechnology

3 Credits/90 Clock-Hours

An introductory course to the biotechnology certificate. Students will be introduced to the many fields and applications of biotechnology. Biology and Chemistry fundamentals will be reviewed along with an overview of the central dogma of biology. Other biotech topics include recombinant DNA, proteins, bioremediation, and bioethics.

Objectives:

- Introduction to Biotechnology
- Biology Fundamentals
- Chemistry Fundamentals
- Introduction to Genes and Genomes
- Recombinant DNA
- Proteins
- Plant Biotechnology
- Animal Biotechnology
- DNA Fingerprinting and Forensics Analysis
- Bioremediation
- Biotechnology Regulations
- Ethics

Laboratory Safety

1 Credits/30 Clock-Hours

The safety course covers general laboratory safety, documentation, and signage. Students will learn about personal protection equipment, safe handling of material, safety data sheets, government regulations, and fire safety. Students will also certify in CPR and first aid.

Objectives:

- Introduction to a Safe Workplace
- Personal Protective Equipment
- Ergonomics
- Laboratory Safety
- Chemical Safety
- Fire Safety
- Safety with Biological Materials
- Safety Data Sheets
- OSHA and Government Regulations



Utah System of Higher Education

Biotechnology

FY2023 / 28 Credits (900 Clock-Hours)

- CPR and First Aid
- Safety Final

Pipette Calibration and Technique

1 Credits/30 Clock-Hours

Precision and accuracy are important skills mastered through BTEC 1100. Students will become proficient in different types and sizes of pipettes and learn proper care and usage.

Objectives:

- Pipette Techniques
- Calibration and Maintenance of Pipette
- Pipetting Precision
- Pipetting Final

Aseptic Technique

1 Credit/30 Clock-Hours

Culturing and isolating organisms will be the focus of this course. Students will become proficient in isolation, sterilization, and culturing of organisms.

Objectives:

- Media Manufacturing
- Cell Culture
- Sterilization Technique
- Aseptic Isolation
- Aseptic Final

Chemical Instrumentation and Laboratory Techniques

3 Credits/90 Clock-Hours

Biotechnology in manufacturing will be a focus in BTEC 1300. Students will learn Good Laboratory Practices, inventory controls, pharmaceutical development, and quality of biotechnological products.

Objectives:

- Good Laboratory Practices
- Inventory Controls
- Pharmaceutical Development and Quality Systems
- Risk Management
- Quality of Biotechnological Products
- Pharmacopoeias

Data Analysis

3 Credits/90 Clock-Hours

Analysis of the data collected in laboratory procedures is the focus of this course. Students will record and analyze data in proportional relationships, through graphing, and statistics. Weight, volume, temperature, light, and units involved in different stages of processing including conversions will be included.

Objectives:

- Basic Math Techniques
- Proportional Relationships
- Relationships and Graphing
- Descriptive Statistics
- Quality Laboratory Measurements
- Instrumental Methods and Electricity
- Weight



Utah System of Higher Education

Biotechnology

FY2023 / 28 Credits (900 Clock-Hours)

- Volume
- Temperature
- Light
- Selected Ions, pH, and Conductivity

Quality Control and Manufacturing Practices

4 Credits/120 Clock-Hours

Laboratories benefit from efficient and streamlined processes. Students will complete the Green Belt Level of Lean Six Sigma and can become certified. Federal regulations, standard operating procedures, and current good manufacturing practices contribute to the quality control in biotechnological manufacturing.

Objectives:

- Lean Six Sigma Introduction
- Lean Six Sigma Value Stream Mapping
- Lean Six Sigma Data Collection
- Lean Six Sigma Statistics and Data Displays
- Lean Six Sigma Variation Analysis
- Lean Six Sigma Identifying and Verifying Causes
- Lean Six Sigma Selecting and Testing Solutions
- Lean Six Sigma Green Belt Certification
- Federal Regulations
- Current Good Manufacturing Practices
- Standard Operating Procedures

DNA Manipulation and Analysis

4 Credits/120 Clock-Hours

DNA structure and synthesis are main processes used for many purposes in biotechnology. Students will separate biological processes through filtration, centrifugation, and bio-separations. Students will analyze DNA sequences, work with transformation and cloning, and use biotechnology process like Polymerase chain reaction and gel electrophoresis.

Objectives:

- DNA Structure and Analysis
- Filtration
- Centrifugation
- Bioseparations
- Recombinant DNA
- Sequence Analysis of Individual Genomes
- Bacterial Transformation
- Polymerase Chain Reaction
- DNA Gel Electrophoresis

Protein Purification and Analysis

4 Credits/120 Clock-Hours

Students will analyze protein structure, quantitation, purification, and size; along with protein use in biofuels, immunology, and immunoassays. The culmination of the program will be the Biotechnician Certified Accreditation Exam (BASE) which includes both a written and practical exam.

Objectives:

- Protein Structure and Analysis
- Protein Quantitation
- Protein Purification



Utah System of Higher Education

Biotechnology

FY2023 / 28 Credits (900 Clock-Hours)

- Size Chromatography
- Page Electrophoresis
- Biofuel
- Immunological Application
- Immunoassays

Externship

4 Credits/180 Clock-Hours

Students will participate in an externship with a local company and apply the things they have learned in the classroom and lab in a real-world setting.

Objectives:

- Demonstrate competence in real world situations



Utah System of Higher Education
 Electrical Apprenticeship
 FY2023 / 24 Credits (720 Clock-Hours)

Electrical Apprenticeship			
Institutions: Bridgerland, Davis, Dixie, Mountainland, Ogden-Weber, Salt Lake, Southwest, Tooele, Uintah Basin, USU-Eastern			
<i>Certificate of Program Completion (Catalog Year: 2023, 24 Credits/720 Clock-Hours Required, CIP: 46.0302)</i>			
Core (24 Credits/720 Clock-Hours)		Credits	Clock-Hours
PREF XXXX	Electrician Apprentice IA	3	90
PREF XXXX	Electrician Apprentice IB	3	90
PREF XXXX	Electrician Apprentice IIA	3	90
PREF XXXX	Electrician Apprentice IIB	3	90
PREF XXXX	Electrician Apprentice IIIA	3	90
PREF XXXX	Electrician Apprentice IIIB	3	90
PREF XXXX	Electrician Apprentice IVA	3	90
PREF XXXX	Electrician Apprentice IVB	3	90



Utah System of Higher Education

Electrical Apprenticeship

FY2023 / 24 Credits (720 Clock-Hours)

PROGRAM DESCRIPTION

The Electrical Apprenticeship program provides a solid understanding of the National Electrical Code (NEC), its layout, the requirements for different electrical systems, and the components of those systems. This program discusses the risks involved with electricity and electrical systems as well as the safety equipment and measures that are in place to protect electricians and the general public alike.

Objectives:

- Apply of the National Electrical Code (NEC)
- Navigate the National Electrical Code (NEC)
- Calculate the sizes of different electrical system parts
- Explain the application of A/C and D/C electrical theory
- Explain Electrical Safety procedures, processes, and equipment
- Wire electrical circuits per National Codes and safety regulations

COURSE DESCRIPTIONS

Electrician Apprentice IA

3 Credits / 90 Clock-Hours

The Electrician Apprentice IA course establishes a solid foundation in electrical fundamentals and the study of basic electrical theory. This course addresses math applications as they relate to the electrical field. In this course, students will use the National Electrical Code (NEC) to apply code requirements to electrical systems. Students will learn and practice in the basics of conduit bending. Students will be introduced to electrical and jobsite hazards and workplace safety.

Objectives:

- Demonstrate a proficiency in general math skills with an emphasis on how they relate to the electrical field
- Identify electrical and jobsite hazards
- Explain workplace safety
- Apply Mathematical Principles to Conduit Bending
- Demonstrate a practical application of conduit bending
- Explain the Fundamentals of Electrical Theory
- Explain the Fundamentals of Electrical Circuitry
- Demonstrate the application of the National Electrical Code (NEC) Articles 090-240
- Demonstrate how to navigate the National Electrical Code (NEC) Articles 090-240

Electrician Apprentice IB

3 Credits / 90 Clock-Hours

The Electrician Apprentice IB course continues the study of electrical theory and its application within the electrical field. In this course, students will learn how devices and electrical systems work. Students will also explore lock out tag out, learn what makes a qualified person, and become more familiar with the National Electrical Code (NEC).

Objectives:

- Apply the fundamentals of electrical theory
- Apply the fundamentals of electrical circuitry
- Explain the definition of a qualified person
- Explain responsibilities and risks of qualified persons
- Demonstrate principles and procedures of lock out tag out.

- Demonstrate the application of the National Electrical Code (NEC) Articles 300-450
- Demonstrate how to navigate the National Electrical Code (NEC) Articles 300-450

Electrician Apprentice IIA

3 Credits / 90 Clock-Hours

The Electrician Apprentice IIA course discusses single-phase and three-phase alternating current (AC) power systems, inductance, capacitance, reactance, power factor, and power correction. In this course, students will begin a more comprehensive analysis of National Electrical Code (NEC) requirements and calculations. They will explore the NEC requirements for wiring methods and installations of electrical systems as well as electrical safety in the use of energized equipment.

Objectives:

- Show proficiency in calculating properties of an AC circuit.
- Demonstrate proper use of hand tools and electrical equipment in practice live applications
- Demonstrate proficiency in applying and calculating the sizing of Branch circuits, feeders, services, and load calculations

Electrician Apprentice IIB

3 Credits / 90 Clock-Hours

The Electrician Apprentice IIB course continues the comprehensive analysis of the National Electrical Code (NEC). In this course, students will evaluate the functions, uses, and calculations for direct current (DC) and alternating current (AC) motors, transformers, and other equipment. They will be instructed in electrical safety regarding Personal Protective Equipment (PPE) clothing requirements.

Objectives:

- Identify the types and voltages of transformers
- Calculate values related to transformers
- Apply the NEC with emphasis in codes regarding Motors, Transformers, and other electrical equipment
- Identify types, categories, and ratings of PPE clothing
- Show applications of types, categories, ratings of Personal Protective Equipment (PPE)

Electrician Apprentice IIIA

3 Credits / 90 Clock-Hours

The Electrician Apprentice IIIA course discusses the roles of bonding and grounding in electrical systems per National Electrical Code (NEC) requirements. In this course, students will be shown the different parts, functions, and calculations for grounding and bonding. Students will explore the rules that apply to different electrical related boundaries set up by the National Fire Protection Agency (NFPA).

Objectives:

- Describe the NEC requirements regarding grounding and bonding
- Calculate sizes of grounding and bonding conductors
- Explain the various conductors and properties of grounding and bonding contained in an electrical system
- Explain NFPA rules to limit approach, restricted approach, and arc flash boundaries

Electrician Apprentice IIIB

3 Credits / 90 Clock-Hours

The Electrician Apprentice IIIB course explores basic and complex electrical motor control systems and their respective fundamental concepts, diagrams, and applications. Students will examine the wiring and protecting of motors and motor circuits per National Electrical Code (NEC) requirements.

Objectives:

- Identify electrical symbols and diagrams pertaining to motors and motor control circuits
- Demonstrate how to wire a control circuit based on a diagram
- Identify various control devices
- Explain application of various control devices.
- Apply proper safety protocols around motor controls

Electrician Apprentice IVA**3 Credits / 90 Clock-Hours**

The Electrician Apprentice IVA course explores the basic skills necessary for becoming crew leader and managing electrical hazards. In this course, students will be instructed in special occupancies, special equipment, special conditions and communication systems and their respective National Electrical Code (NEC) requirements.

Objectives:

- Demonstrate the application of the National Electrical Code (NEC) Chapters 5-8
- Demonstrate how to navigate the National Electrical Code (NEC) Chapters 5-8
- Explain the costs related to safety
- Perform a hazard / risk assessment
- Explain Utah licensing requirements and rules

Electrician Apprentice IVB**3 Credits / 90 Clock-Hours**

The Electrician Apprentice IVB course, students will review all concepts from the previous years of electrical apprenticeship education. This course prepares individuals for the Utah State Journeyman qualifying examinations. Upon completion, students will demonstrate journeyman-level understanding of the electrical field as a whole.

Objectives:

- Apply knowledge of National Electrical Code (NEC) to pass a comprehensive review
- Apply knowledge of electrical theory to pass a comprehensive review
- Apply knowledge of safety to pass a comprehensive review



Utah System of Higher Education
Emergency Medical Technician
FY2023 / 6 Credits (186 Clock-Hours)

Emergency Medical Technician			
Institutions: Bridgerland, Davis, Dixie, Mountainland, Salt Lake, Snow, Southwest, USU-Eastern			
<i>Certificate of Program Completion (Catalog Year: 2023, 6 Credits/186 Clock-Hours Required, CIP: 51.0910)</i>			
Core (6 Credits/186 Clock-Hours)		Credits	Clock-Hours
PREF XXXX	Emergency Medical Technician	6	186



Utah System of Higher Education

Emergency Medical Technician
FY2023 / 6 Credits (186 Clock-Hours)

PROGRAM DESCRIPTION

The Emergency Medical Technician program provides training for out-of-hospital emergency medical care and transportation of critical and emergent patients who access the emergency medical services (EMS) system. Emergency Medical Technicians (EMTs) have basic knowledge and skills necessary to stabilize and safely transport patients ranging from non-emergency and routine medical transports to life threatening emergencies. EMTs function as part of a comprehensive EMS response system, under medical oversight. EMTs perform interventions with the basic equipment typically found on an ambulance. EMTs are a critical link between the scene of an emergency and the health care system.

Objectives:

Upon program completion, students will be able to:

- Apply fundamental knowledge of the anatomy and function of all human systems to the practice of EMS
- Use foundational anatomical and medical terms and abbreviations in written and oral communication with colleagues and other health care professionals
- Apply fundamental knowledge of the pathophysiology of respiration and perfusion to patient assessment and management
- Apply fundamental knowledge of lifespan development to patient assessment and management
- Properly administer or assist in administering medications to a patient during an emergency
- Utilize fundamental knowledge of the EMS system, safety/well-being of the EMT, and medical/legal and ethical issues to the provision of emergency care
- Apply knowledge (fundamental depth, foundational breadth) of anatomy and physiology to patient assessment and management to assure a patent airway, adequate mechanical ventilation, and respiration for patients of all ages
- Interpret scene information and patient assessment findings (scene size-up, primary and secondary assessment, patient history, reassessment) to guide emergency management
- Provide basic emergency care and transportation based on assessment findings for an acutely ill patient
- Apply a fundamental knowledge of the causes, pathophysiology, and management of shock, respiratory failure or arrest, cardiac failure or arrest, and post-resuscitation management
- Provide basic emergency care and transportation based on assessment findings for an acutely injured patient
- Utilize principles of growth, development, aging and assessment findings to provide basic emergency care and transportation for a patient with special needs
- Perform in accordance with operational roles and responsibilities to ensure patient, public, and personnel safety when responding to an emergency

COURSE DESCRIPTIONS

Emergency Medical Technician

6 Credits/186 Clock-Hours

The Emergency Medical Technician course provides training on out of hospital emergency medical care and transportation for critical and emergent patients who access the emergency medical services (EMS) system. Emergency Medical Technicians (EMTs) have basic knowledge and skills necessary to stabilize and safely transport patients ranging from non-emergency and routine medical transports to life threatening emergencies. EMTs function as part of a comprehensive EMS response system, under medical oversight. EMTs perform interventions with the basic equipment typically found on an ambulance. EMTs are a critical link between the scene of an emergency and the health care system. This course includes 6 hours of externship hours to be completed outside of the classroom time.

Objectives:

- Apply fundamental knowledge of the anatomy and function of all human systems to the practice of EMS
- Use foundational anatomical and medical terms and abbreviations in written and oral communication with colleagues and other health care professionals
- Apply fundamental knowledge of the pathophysiology of respiration and perfusion to patient assessment and management
- Apply fundamental knowledge of lifespan development to patient assessment and management
- Use simple knowledge of the principles of illness and injury prevention in emergency care
- Properly administer or assist in administering medications to a patient in an emergency
- Apply fundamental knowledge of the EMS system, safety/well-being of the EMT, and medical/legal and ethical issues to the provision of emergency care
- Apply knowledge (fundamental depth, foundational breadth) of anatomy and physiology to patient assessment and management to assure a patent airway, adequate mechanical ventilation, and respiration for patients of all ages
- Interpret scene information and patient assessment findings including scene size-up, primary and secondary assessment, patient history, and reassessment, to guide emergency management
- Provide basic emergency care and transportation based on assessment findings for an acutely ill patient
- Apply a fundamental knowledge of the causes, pathophysiology, and management of shock, respiratory failure or arrest, cardiac failure or arrest, and post-resuscitation management
- Provide basic emergency care and transportation based on assessment findings for an acutely injured patient
- Utilize principles of growth, development, aging and assessment findings to provide basic emergency care and transportation for a patient with special needs
- Perform in accordance with operational roles and responsibilities to ensure patient, public, and personnel safety when responding to an emergency



Utah System of Higher Education
Digital Marketing & Analytics
FY2023 / 20 Credits (600 Clock-Hours)

Digital Marketing & Analytics			
Institutions: Mountainland			
<i>Certificate of Program Completion (Catalog Year: 2023, 20 Credits/600 Clock-Hours Required, CIP: 52.1404)</i>			
Core (20 Credits/600 Clock-Hours)		Credits	Clock-Hours
DGMA 0101	Introduction to Marketing	2	60
DGMA 0111	Marketing Design	2	60
DGMA 0102	Content Marketing & Marketing Analytics	4	120
DGMA 0103	Email Marketing	2	60
DGMA 0104	Search Engine Optimization	2	60
DGMA 0105	Digital Advertising	3	90
DGMA 0106	Social Media Marketing	3	90
DGMA 0107	Advanced Digital Marketing	2	60



Utah System of Higher Education

Digital Marketing & Analytics
FY2023 / 20 Credits (600 Clock-Hours)

PROGRAM DESCRIPTION

In the Digital Marketing and Analytics program, students will learn the fundamental principles of marketing, strategy, and best practices. Students will learn the day-to-day tasks of the modern digital marketer from lectures, guest speakers, presentations, and hands-on application. Through instruction and hands-on practice, students will learn and test their skills in Search Engine Optimization, Search Engine Marketing, Digital Advertising, Social Media Marketing, Content Marketing, and Email Marketing.

Objectives:

- Demonstrate a working knowledge of the fundamentals of digital marketing and marketing analytics
- Define key digital marketing and analytics terms and definitions
- Assess marketing data using industry tools and best practices
- Create strategic digital marketing plans following industry suggested best practices
- Implement a digital marketing strategy in a business
- Complete industry certifications to show competencies in each digital marketing vertical

COURSE DESCRIPTIONS

Introduction to Marketing

2 Credit/60 Clock-Hours

The Introduction to Marketing course is designed to help students become proficient in the fundamentals and best practices of marketing. The course will cover key digital marketing terms, marketing research, buyer personas, positioning, buyer behaviors, brand management, product management, and pricing. Through lecture, guest speakers, presentations, and hands-on application, students will become proficient in the skills needed to be a modern-day digital marketer.

Objectives:

- Demonstrate fundamental marketing skills needed to pursue an education in digital marketing
- Display an understanding of marketing key terms and definitions
- Assess marketing strategies through industry case studies
- Implement marketing best practices and strategies through hands-on business applications
- Present marketing plans based on industry best practices

Marketing Design

2 Credit/60 Clock-Hours

The Marketing Design course will help students become familiar with graphic design concepts and platforms. The course will cover marketing design principles, design best practices, and popular graphic design platforms. Students will learn marketing design through lectures, guest speakers, presentations, and hands-on applications.

Objectives:

- Demonstrate knowledge of graphic design key terminology and definitions
- Explain why marketing design principles are an important part of a company's marketing strategy
- Display an understanding of how design affects businesses marketing efforts
- Break down the differences between good and bad marketing content
- Create marketing content on today's most popular platforms

Content Marketing & Marketing Analytics

4 Credits/120 Clock-Hours

The Content Marketing & Marketing Analytics course is designed to help students become proficient in content marketing, web design, and marketing analytics using today's leading platforms. The course will cover content marketing best practices, content marketing strategy, creating marketing content, website design, website building, website management, tracking marketing analytics, and measuring and reporting on marketing efforts. Students will learn through lectures, guest speakers, presentations, and hands-on applications the best practices and strategies of content marketing.

Objectives:

- Explain why content marketing is an important part of a company's overall marketing strategy
- Demonstrate knowledge of content marketing key terminology and definitions
- Analyze when and how to use content marketing to optimize a customer buyer's journey
- Execute content marketing best practices and strategies through content creation
- Demonstrate proficiency in using content marketing platforms and tools
- Build content promotion strategies for businesses
- Create and manage a personal website or portfolio
- Analyze marketing data to make informed future business decisions
- Demonstrate proficiency in using leading marketing analytics tools

Email Marketing

2 Credits/60 Clock-Hours

The Email Marketing & Customer Relationship Management course is designed to help students become proficient in email marketing, using today's leading platforms. The course will cover email marketing best practices, email marketing strategy, creating emails, lead generation, creating landing pages, tracking email marketing analytics, and email marketing automation. Students will learn through lectures, guest speakers, presentations, and hands-on applications the best practices and strategies of email marketing.

Objectives:

- Explain why email marketing is an important part of a company's overall marketing strategy
- Demonstrate knowledge of email marketing key terminology and definitions
- Analyze when and how to use email marketing to maximize their customer experience and drive more website visits, leads and sales
- Execute email marketing best practices and strategies through hands-on projects
- Create a variety of different email marketing content
- Demonstrate proficiency in using email marketing tools and platforms
- Execute and design email marketing automation workflows for contact management

Search Engine Optimization

2 Credits/60 Clock-Hours

The Search Engine Optimization course is designed to help students become proficient in SEO using today's leading platforms. The course will cover search engine optimization best practices, on-site SEO, off-site SEO, technical SEO, SEO audits, and today's leading SEO tools. Students will learn through lectures, guest speakers, presentations, and hands-on applications the best practices and strategies of SEO.

Objectives:

- Explain why search engine optimization is an essential part of a company's overall marketing strategy
- Demonstrate knowledge of search engine optimization key terminology and definitions
- Analyze when and how to use search engine optimization to increase website rankings
- Execute search engine optimization best practices and strategies through hands-on projects
- Manage on-site, off-site, and technical search engine optimization on their personal website/portfolio

- Perform and present website audits for businesses
- Demonstrate proficiency in using search engine marketing tools

Digital Advertising

3 Credits/90 Clock-Hours

The Digital Advertising course is designed to help students become proficient in Search Engine Marketing using today's leading platforms. The course will cover digital advertising best practices, bidding strategies, search ads, display ads, video ads, digital ads optimization analyzing ad performance, and current leading digital advertising platforms. Students will learn through lectures, guest speakers, presentations, and hands-on applications the best practices and strategies of Digital Advertising.

Objectives:

- Explain why digital advertising is an important part of a company's overall marketing strategy
- Demonstrate knowledge of digital advertising key terminology and definitions
- Analyze when and how to use digital advertising to drive website traffic, leads, and sales
- Execute digital advertising best practices and strategies through hands-on projects
- Create digital ads on current leading advertising platforms
- Break down digital advertising results and key metrics for improving results
- Demonstrate proficiency in using digital advertising tools

Social Media Marketing

3 Credits/90 Clock-Hours

The Social Media Marketing course is designed to help students become proficient in organic and paid social media marketing on today's leading platforms. This course will cover social media branding, social media strategy, social media management, paid social media marketing, influencer marketing, social media tools, and social media analytics. Students will learn through lectures and hands-on training the best practices and strategies of social media marketing.

Objectives:

- Explain why social media marketing is an important part of a company's overall marketing strategy
- Demonstrate knowledge of social media marketing key terminology and definitions.
- Analyze when and how to use social media marketing to maximize return on investment
- Execute social media marketing best practices for today's most popular platforms
- Demonstrate proficiency in using social media marketing platforms and tools
- Create and optimize social media ad campaigns
- Break down and report on social media analytics

Advanced Digital Marketing

2 Credits/60 Clock-Hours

The Advanced Digital Marketing course is designed to help students become proficient in advanced digital marketing tactics, best practices, and strategies. The course will cover advanced marketing strategies for content marketing, email marketing, search engine optimization, conversion rate optimization, digital advertising, social media marketing, or marketing analytics. Students will learn through lectures, presentations, and hands-on training these advanced marketing skills.

Objectives:

- Demonstrate knowledge of advanced digital marketing skills needed for the jobs of today
- Research and present new digital marketing tools, skills, or best practices
- Implement ways to stay up-to-date in chosen digital marketing specialty
- Create a digital marketing resume with the skills and knowledge learned in the program
- Complete mock interviews for specific digital marketing jobs



Utah System of Higher Education
Limited X-Ray Technician
FY2023 / 10 Credits (345 Clock-Hours)

Limited X-Ray Technician			
Institutions: Mountainland			
<i>Certificate of Program Completion (Catalog Year: 2023, 10 Credits/345 Clock-Hours Required, CIP:51.0911)</i>			
Core (10 Credits/345 Clock-Hours)		Credits	Clock-Hours
LMRT 1020	Radiographic Procedures and Patient Care	4	120
LMRT 1030	Radiographic Core	3	90
LMRT 1065	Limited X-Ray Technician Clinicals	3	135



Utah System of Higher Education

Limited X-Ray Technician

FY2023 / 10 Credits (345 Clock-Hours)

PROGRAM DESCRIPTION

In this program, students will be instructed in the classroom and laboratory settings to learn on-the-job skills of being an x-ray tech, and then apply that knowledge in a clinical setting. Students will learn the anatomy of the human body, the types of joints, and how to position their patients for the specific exam. Students will learn how to provide exceptional patient care to those they come in contact with. Students will also learn how x-rays are produced, the behind the scene processes that all x-ray images go through, and the post processing digital techniques. The experience students will gain at their clinical sites will put them on the path to a successful career as a Limited X-ray Technologist.

Objectives:

- Demonstrate x-ray procedures from the top of the skull down to the lower extremities
- Provide and perform exceptional patient care to their patients, patient families, and coworkers
- Explain how the x-ray tube works, the physics behind the electrical energy and x-rays, and how x-rays are produced
- Describe the digital imaging techniques, post processing techniques, and the technical factors that are used for each exam
- Perform 135 hours of on the job training hours throughout the course of the program

COURSE DESCRIPTIONS

LMRT Procedures and Patient Care

4 Credits/120 Clock-Hours

This course is designed to provide students with the knowledge and skills to take x-ray images of the chest, upper and lower limb, shoulder girdle, spine, skull, and podiatry exams. During this course students will practice taking x-rays, identifying anatomy and topical landmarks, and how to position the patient and the x-ray tube for each exam. Students will practice using post processing techniques when completing the entire process of start to finish when taking an x-ray.

Objectives:

- Demonstrate their anatomy and landmark knowledge of the chest, upper and lower limb, shoulder girdle, spine, skull
- Simulate the routine and special positions and projections for the chest, upper and lower limb, shoulder girdle, spine, skull, and podiatry procedures in both the lecture and lab settings
- Explain patient care procedures to be able to care for patients and their individual needs
- Use medical terminology for body positions and imaging projections
- Identify the safety protocols for each x-ray exam

LMRT Radiographic Core

3 Credits/90 Clock-Hours

This course is designed to teach students about x-ray imaging and exposure techniques, radiation protection, radiobiology, and radiographic physics. Students will learn how to use digital imaging techniques and post processing techniques in both the lab and in the classroom. This course will assist students in understanding the core methods of radiography.

Objectives:

- Describe the properties and characteristics of x-rays
- Describe the equipment and components of an x-ray room
- Demonstrate patient protection techniques to decrease the radiobiological risks
- Demonstrate digital imaging and post processing techniques

- Describe radiation physics and x-ray production circuits
- Use the key features in the digital image process and in post processing

LMRT Clinicals I**3 Credits/135 Clock-Hours**

This course is designed for students to take their knowledge of what they learned in the classroom and laboratory and apply it to their clinical site. Students will position patients, use proper radiation protection techniques, and take x-rays under the supervision of the x-ray department staff. Students will learn the job of an X-ray technologist through real world experiences.

Objectives:

- Use proper radiation protection techniques during each x-ray exam
- Execute x-ray imaging exams from start to finish under the direction of the x-ray department staff
- Select technical factors to produce quality diagnostic images with the mindset of ALARA
- Provide patient-centered care for all patients regardless of age, gender, disability, special needs, ethnicity, or culture
- Pass off X-ray competencies for the chest, upper and lower limb, shoulder girdle, spine, skull



Utah System of Higher Education
Radiography Technology
FY2023 / 42 Credits (1600 Clock-Hours)

Radiography Technology			
Institutions: Mountainland			
<i>Certificate of Program Completion (Catalog Year: 2023, 42 Credits/1600 Clock-Hours Required, CIP: 51.0911)</i>			
Core (22 Credits/720 Clock-Hours)		Credits	Clock-Hours
BLSH 1000	AHA Basic Life Support for Healthcare Providers	0	5
RADT 1020	Rad. Anatomy & Procedures	3	90
RADT 1030	Radiographic Imaging and Exposure Techniques	3	90
RADT 1050	Patient Care	1	30
RADT 1070	Rad. Clinicals I	6	270
RADT 1110	Radiology Physics	1	30
RADT 1120	Rad. Anatomy & Procedures II	3	90
RADT 1130	Radiographic Imaging II	2	60
RADT 1060	Rad Protection and Radiobiology	1	30
RADT 1170	Rad. Clinicals II	6	270
RADT 2010	Rad. And Pediatric Pathology	1	30
RADT 2020	Rad. Anatomy & Procedures III	2	60
RADT 2030	Alternate Modality and Sectional Anatomy	2	60
RADT 2070	Rad. Clinicals III	6	270
RADT 2150	Registry Review (online)	3	90
RADT 2170	Rad. Clinicals IV	2	125



Utah System of Higher Education

Radiography Technology

FY2023 / 42 Credits (1600 Clock-Hours)

PROGRAM DESCRIPTION

In this program, students will be instructed in the classroom and laboratory settings to learn on-the-job skills of being an x-ray tech, and then apply that knowledge in a clinical setting. You will have the opportunity to gain experience in a variety of healthcare settings including -but not limited to- hospitals, urgent care, and family practice clinics. The experience you will gain at your clinical sites will put you on the path to a successful career as a Radiographic Technologist.

Objectives:

- Demonstrate x-ray procedures from skull down to the lower extremity
- Perform exceptional patient care
- Explain how the x-ray tube works, the physics behind it, and how x-rays are produced
- Perform 935 on the job training hours throughout the course of the program

COURSE DESCRIPTIONS

AHA Basic Life Support for Healthcare Providers

0 Credits/5 Clock-Hours

The Basic Life Support (BLS) Course for Health Care Providers is designed to provide professionals with the necessary skills to keep people alive until they can be brought to a hospital or be treated with more advanced lifesaving measures.

This course covers: adult and pediatric CPR, two-rescuer scenarios and use of the bag-valve masks, foreign-body airway obstruction, automated external defibrillation, special resuscitation situations, stroke and cardiac arrest, and other cardiopulmonary emergencies.

Objectives:

- Recognize several life-threatening emergencies
- Correctly perform CPR
- Correctly use an AED
- Relieve choking in a safe, timely and effective manner

Rad. Anatomy & Procedures

3 Credits/90 Clock-Hours

This course is designed to provide students with the knowledge and skills to take x-ray images of the chest, abdomen, upper limb, and shoulder. During this course students will practice taking x-rays, identifying anatomy and topical landmarks, and how to position the patient and the x-ray tube for each exam. Students will practice using post processing techniques when completing the entire process of start to finish when taking an x-ray.

Objectives:

- Demonstrate their anatomy and landmark knowledge of the chest, abdomen, upper limb, humerus, shoulder girdle
- Simulate the routine and special positions and projections for the chest, abdomen, upper limb, and shoulder procedures in both the lecture and lab settings
- Describe skeletal trauma and fracture terminology related to the chest, abdomen, upper limb, and shoulder girdle

Radiographic Imaging and Exposure Techniques

3 Credits/90 Clock-Hours

This course is designed to introduce and teach students about x-ray imaging and exposure techniques. In this course, students will understand how x-rays are produced, the components of an x-ray tube, what the core techniques are, and how they produce a visible image. Students will also learn the basics of digital imaging and how to use the post processing techniques properly.

Objectives:

- Describe the components of an x-ray tube, beam and how x-rays are produced
- Explain the properties and characteristics of x-rays
- Identify the different types of image receptors and explain their proper use
- Use the key features in the digital image process and in post processing

Patient Care**1 Credit/30 Clock-Hours**

This course is designed to provide students with the knowledge and skills that are necessary to perform exceptional care while working with patients in their clinical and job setting. Students will learn how to properly transfer patients, perform correct sterile techniques, communicate effectively, and use preventative measures for infectious diseases.

Objectives:

- List what the radiography technologist's role is and what standards they are expected to abide by
- Maintain a professional attitude toward various patient populations with an ability to meet their individual needs including those of diverse ethnicity, religion, disability, gender, age, and sexual orientation
- Use safety precautions and proper infection control procedures
- Assess the patient's needs and demonstrate proper transportation techniques to the patient if needed
- Describe sterile techniques that they will use during procedures in and out of surgery

Rad. Clinicals I**6 Credits/270 Clock-Hours**

This course is designed for students to take their knowledge of what they learned in the classroom and laboratory and apply it to their clinical sites. Students will position patients, use proper radiation protection techniques, and take x-rays under the supervision of the x-ray department staff. Students will learn the job of an X-ray technologist through real world experiences.

Objectives:

- Use proper radiation protection techniques during each x-ray exam
- Execute x-ray imaging exams from start to finish under the direction of the x-ray department staff
- Select technical factors to produce quality diagnostic images with the mindset of ALARA
- Pass off their X-ray Competencies for Chest, Abdomen, Upper Limb, and Shoulder Girdle

Radiology Physics**1 Credits/30 Clock-Hours**

This course is designed to teach students about the physics of x-ray production. Students will learn about the characteristics of an x-ray beam, how it is created, and how they travel. Students will learn the different ways that X-ray photons interact with matter and how it can affect atoms and cells. Students will also learn how electrical circuits work and the different types of circuits used in the x-ray process.

Objectives:

- Explain the difference between AC and DC circuits
- Identify and describe each part of the x-ray circuit and what it does
- Demonstrate the creation process of the x-ray beam and how it travels through the x-ray tube
- Describe the different ways that x-rays photons can interact with matter and the cause

Rad. Anatomy & Procedures II**3 Credits/90 Clock-Hours**

This course is designed to provide students with the knowledge and skills to take x-ray images of the lower extremities, spine, pelvis, and ribs along with practicing the exams from the semester before. During this course students will practice taking x-rays, identifying anatomy and topical landmarks, and how to position the patient and the x-ray tube for each exam. Students will practice using post processing techniques when completing the entire process of start to finish when taking an x-ray.

Objectives:

- Demonstrate their anatomy and landmark knowledge of the lower extremities, spine, pelvis, and ribs
- Describe skeletal trauma and fracture terminology related to the lower extremities, spine, pelvis, and ribs
- Explain the routine and special positions and projections for the lower extremities, spine, pelvis, and ribs procedures in the lab setting

Radiographic Imaging II**2 Credits/60 Clock-Hours**

This course is designed to build upon the student's knowledge of imaging and exposure and enhance their skills as a student tech. Students will build upon their knowledge of how x-rays are created and manipulated with certain exposure values. Students will gain a better understanding of exposure techniques, digital imaging processes, automatic exposure control, and other post processing techniques. Students will practice these techniques during labs and will enhance their imaging skills.

Objectives:

- Explain scatter radiation and the purpose of grids
- Describe the process of using AEC along with manual techniques and how it benefits their patient
- Demonstrate proficiency in the different imaging techniques and manipulation of techniques increase during time spent in the lab
- Use the specific formulas associated with image quality to make their images better

Rad Protection and Radiobiology**1 Credits/30 Clock-Hours**

This course is designed to teach students about radiation protection methods and the effects that can happen from radiation exposure. Students will learn about beam filtration, beam restrictors, and patient consideration. Students will learn about the ALARA principles and the importance of time, distance, and shielding. Students will learn about dosimeters and how they monitor radiation levels. Students will also learn about the biological effects of radiation and how they can affect the body.

Objectives:

- Explain the ALARA principle and its relationship to time, distance, and shielding
- Identify the biological effects that can happen due to radiation
- Explain the difference between short- and long-term somatic effects
- Describe the methods of filtration, beam restriction, and patient consideration
- Demonstrate proper radiation protection techniques

Rad. Clinicals II**6 Credits/270 Clock-Hours**

This course is designed for students to take their knowledge of what they have learned and are currently learning in the classroom and laboratory and apply it to their clinical sites. Students will position patients, use proper radiation protection techniques, and take x-rays under the supervision of the x-ray department

staff. Students will also participate in other imaging exams, like fluoroscopy, surgery c-arm exams, and dexa scans. Students will learn the job of an X-ray technologist through real world experiences.

Objectives:

- Use proper radiation protection techniques during each x-ray exam
- Execute x-ray imaging exams from start to finish under the direction of the x-ray department staff
- Select technical factors to produce quality diagnostic images with the mindset of ALARA
- Pass off their X-ray Competencies for lower extremities, spine, pelvis, and ribs

Rad. And Pediatric Pathology

1 Credits/30 Clock-Hours

This course is designed to teach students about the different pathology cases they may see during their clinicals. Students will learn how to help pediatric patients through their entire x-ray or imaging exam. Students will be able to identify different pathologies they will see on their imaging rotations.

Objectives:

- Describe techniques to help their pediatric patients through their exam
- Demonstrate their knowledge of different pathology cases
- Identify different pediatric and adult pathologies they may see in clinicals and what they learn in class

Rad. Anatomy & Procedures III

2 Credits/60 Clock-Hours

This course is designed to provide students with the knowledge and skills to take x-ray images of the upper and lower GI tract, urinary tract and biliary tract along with the skull, sinus, facial bones, and trauma x-ray views. During this course, students will practice taking x-rays, identifying anatomy and topical landmarks, and using the x-ray tube with correct post processing techniques.

Objectives:

- Demonstrate their anatomy and landmark knowledge of the upper and lower GI tract, urinary tract and biliary tract along with the Skull, Sinus, Facial Bones, and trauma x-ray views
- Explain the routine and special positions and projections for the Skull, Sinus, Facial Bones procedures in the lab setting
- Describe skeletal trauma and fracture terminology related to the Skull, Sinus, and Facial Bones

Alternate Modality and Sectional Anatomy

2 Credits/60 Clock-Hours

This course is designed to teach students about the different imaging modalities in the field of radiology and to give students a base understanding of cross section anatomy. Students will be taught by imaging professionals who have specialized in a certain modality. Students will be able to gain more information about what they want to do in the future. Students will also be able to identify different sections of cross-sectional anatomy.

Objectives:

- Explain the difference between each imaging modality
- Describe sectional anatomy terms
- Identify different cross sections of the body

Rad. Clinicals III

6 Credits/270 Clock-Hours

This course is designed for students to take their knowledge of what they have learned and are currently learning in the classroom and laboratory and apply it to their clinical sites. Students will position patients, use proper radiation protection techniques, and take x-rays under the supervision of the x-ray department

staff. Students will also participate in other imaging exams, like fluoroscopy, surgery c-arm exams, and dexta scans. Students will learn the job of an X-ray technologist through real world experiences.

Objectives:

- Use proper radiation protection techniques during each x-ray exam
- Execute x-ray imaging exams from start to finish under the direction of the x-ray department staff
- Select technical factors to produce quality diagnostic images with the mindset of ALARA
- Pass off their Imaging Competencies for upper and lower GI tract, urinary tract and biliary tract along with the skull, sinus, facial bones, and trauma x-ray views

Registry Review (online)**3 Credits/90 Clock-Hours**

This course is designed to assist students in studying for their ARRT national board exams that they will take at the end of the program. This course will provide students with the resources, help aids, and practice exams they need to study for their national boards.

Objectives:

- Demonstrate their knowledge of the program based on their practice board exams
- Describe the format of the ARRT board exam
- Explain the main principles of radiography technology
- Demonstrate their knowledge of patient protection, patient positioning, and patient care

Rad. Clinicals IV**2 Credits/125 Clock-Hours**

This course is designed for students to take their knowledge of what they have learned and are currently learning in the classroom and laboratory and apply it to their clinical sites. Students will position patients, use proper radiation protection techniques, and take x-rays under the supervision of the x-ray department staff. Students will also participate in other imaging exams, like fluoroscopy, surgery c-arm exams, and dexta scans. Students will learn the job of an X-ray technologist through real world experiences.

Objectives:

- Use proper radiation protection techniques during each x-ray exam
- Execute x-ray imaging exams from start to finish under the direction of the x-ray department staff
- Select technical factors to produce quality diagnostic images with the mindset of ALARA
- Pass off their Imaging Competencies for all exams they have learned throughout the program



Utah System of Higher Education
Sterile Processing Technician
FY2023 / 24 Credits (900 Clock-Hours)

Sterile Processing Technician			
Institutions: Mountainland			
<i>Certificate of Program Completion (Catalog Year: 2023, 24 Credits/900 Clock-Hours Required, CIP: 51.1012)</i>			
Core (25 Credits/900 Clock-Hours)		Credits	Credit Hours
CSTE 1010	Intro to Sterile Processing and Decontamination	3	100
CSTE 1110	Preparation & Packaging	3	90
CSTE 1210	Sterilization & Disinfection	4	120
CSTE 1310	Storage & Distribution, QA, and Equipment	3	90
CSTE 0450	Externship	11	500



Utah System of Higher Education

Sterile Processing Technician

FY2023 / 24 Credits (900 Clock-Hours)

PROGRAM DESCRIPTION

The beginning of a successful surgery begins with clean and sterile surgical instruments. As a Sterile Processing Technician, you will be an essential team member of the operating room and healthcare team. You will be responsible for the cleanliness, decontamination, inspecting and assembly of surgical instruments, packaging, and sterilization of all surgical instruments. As you pay close attention to details regarding instruments you will have to be an effective verbal and written communicator with the OR staff to make procedures a success. Sterile Processing Technicians have a strong understanding of decontamination and infection control to ensure their work protects patients and healthcare members from infections and diseases.

After completing this course, students will be prepared to take the Certified Registered Central Service Technician (CRCST) exam offered by the Healthcare Sterile Processing Association (HSPA). This program is based on the HSPA certification, CRCST.

Objectives:

- Identify the different instrumentation used in daily surgical procedures (scissors, forceps, clamps, retractors)
- Assemble surgical instrument trays and instruments designated for other departments (ED, Labor & Delivery, ICU, Cardiac Unit, Research)
- Demonstrate how to package single or paired instruments in paper/plastic pouches for sterilization. This packaging method is commonly known as the Peel Pack method
- Demonstrate the different processes of sterilization methods such as high-temperature and low
- Receive certification through the American Heart Association for Basic Life Support for the Healthcare Provider and First Aid
- Be able to apply safe practices regarding PPE, bloodborne pathogens, and distinguish between different levels of disinfection (High, Intermediate, Low)

COURSE DESCRIPTIONS

Intro to Sterile Processing and Decontamination

3 Credit/100 Clock-Hours

Sterile processing technicians play an important role to ensure patient safety, infection prevention, and providing clean, sterile instruments on a regular basis for surgical procedures. Numerous processes and lab activities will help enhance the understanding of surgical instruments going from dirty, to clean, to becoming sterile, also known as One-Way-Flow. Each area in sterile processing is a building block of achieving sterile instrumentation for surgeries.

The decontamination of surgical instruments is an integral part of a sterile technician's job. Review and practice of standard operating procedures for bloodborne pathogens, standard precautions, decontamination of surgical instruments from the OR, and decontaminated to an acceptable level. Introduction of OSHA approved PPE and how to don and doff PPE will be practiced in the lab, along with other hands-on activities to practice in the lab. These activities will help reinforce the step-by-step processes the students must understand and follow through with the current standards and guidelines for decontamination in sterile processing.

Objectives:

- Explain the importance of the Sterile Processing Department, with an emphasis on the service provided and role of CS in quality patient care
- Identify the various elements used in medical terminology including prefixes, roots, and suffixes

- Discuss how medical terminology can refer to the human anatomy, disease processes, surgical instruments, and surgical procedures to assist the OR when specific items are needed for surgeries
- Review the structure, function, activities, and role of cells, tissues, and organs in the body and identify common surgical procedures that involve each system
- Identify pathogenic microorganisms such as bacteria, viruses, fungi and parasites, and how to prevent the spread of each pathogenic microorganism
- Recognize the differences between federal and state laws/regulations versus voluntary standards and guidelines
- Identify the need and use for thermal disinfection for infection prevention, the hazards of bloodborne pathogens
- Describe Point-of-use preparation and safety guidelines for transporting contaminated items from the OR to the decontamination area
- Discuss the purpose and set up of the decontamination sink areas including the importance of OSHA approved PPE
- The role of detergents/enzymatic cleaners, three levels of disinfection, and the steps in the pre-cleaning process

Preparation & Packaging

3 Credit/90 Clock-Hours

Identification of surgical instruments, their function and each specialty they're used for (e.g., ortho, neuro, spine, etc.), testing methods used for specific instruments such as but not limited to laparoscopic sheath testing, scissor sharpness, tip protections and inspection for wear and tear of each instrument. Students will practice simultaneous wrapping methods, the most commonly used in the OR's, and learn to identify sterilizing methods for each instrument set. Recognize the difference and become familiar with chemical indicators, tamper-evident seals, rigid container system and list of contents with instructions on how to assemble the instrument sets for the OR.

Objectives:

- Explain the function, accurate, and neat, methodology for assembling instrument sets
- Recognize the areas of each instrument for inspection of debris and functionality
- Explain sterilization and the two most commonly used methods
- Identify the sterilization method and the use of chemical indicators, tamper-evident seals and packaging material for sterilization
- Understand and become familiar with count sheets or "recipes," a list of contents and details originated by the OR staff on how to assemble each instrument set
- Practice simultaneous wrapping, the most commonly used in the OR
- Demonstrate how to use "peel packs" to package single instruments when needed
- Label instrument sets for each packaging methods (rigid containers, wrapping, peel packs)
- Provide an overview of reusable and disposable packaging materials and packaging concepts including closure methods and selection factors

Sterilization & Disinfection

4 Credit/120 Clock-Hours

High temperature and low temperature sterilization methods are the two methods of sterilization used in sterile processing. Discussion of daily testing procedures for each sterilization method, performance monitoring such as physical, biological, and chemical. Knowledge of which endospore is used for each sterilization method is crucial in order to assure sterility of surgical instruments. Record keeping and monitoring of each sterilization cycle will be practiced in the lab, as well as loading a sterilizer cart correctly.

The difference between disinfectants and the disinfection process will be discussed in great detail. Knowledge of these differences will ensure the student can recognize the three levels of disinfection; high, intermediate and low. Use of high-level disinfectants require OSHA approved PPE, while intermediate and low require minimal level of PPE to work with them. Activities on how to read different types of disinfectants, their intended use, contact times and which pathogens, if any, do they advertise to kill within the required contact time. The Chain of Infection will also be discussed in class and students will become familiar with each link and how to break in the infection process.

Objectives:

- Define the term Immediate Use Steam Sterilization and review the industry standards and procedures for use
- Describe point-of-use processing and heat-sensitive medical devices
- Discuss the advantage of steam sterilization, types and anatomy of different steam sterilizers, the sterilization cycles, conditions necessary for an effective process, and the indicators
- Recognize daily testing procedures for each sterilization method
- Understand how to document and read performance monitors for each sterilization method
- Explain the requirements and parameters of the low-temperature sterilization methods
- Understand the three levels of disinfectants and what they're used for
- Practice reading various types of disinfectants to learn how to read the instructions for use correctly
- Practice wearing PPE for lab activities which will require working with disinfectants
- Discuss the Chain of Infection and how it relates to everyday life
- Identify and break each link in the Chain of Infection

Storage & Distribution, QA, and Equipment

3 Credit/90 Clock-Hours

Sterile storage is where the instruments are stored after the sterilization process has been completed. Items will be picked for scheduled surgical procedures and be used in the OR on a patient. Items in sterile storage must have gone through the decontamination process, assembly and packaging process, and then the sterilization process.

Distribution refers to the process of distributing sterile single use or reusable items to the OR and other areas within the hospital or facility. Sterile single use or sterile reusable items can be stored in the Sterile Storage area and picked by sterile processing personnel as the OR and/or other departments have requested. Par levels and other required processes of sterile item replenishment will be discussed in class.

Quality Assurance is the daily testing of each sterilization method, high level disinfection process, decontamination and thermal disinfection process. Daily tests are performed and results are recorded for quality assurance and auditing purposes. Learning the record keeping processes, especially with daily testing of each sterilization method, will be practiced in the lab alongside the sterilization lab activities.

Various items of equipment are used with the OR and throughout the hospital or facility. Equipment items can include: morphine drips, epidural pumps, feeding pumps, other pain management devices, etc. These equipment items are usually picked up by the sterile processing departments and disinfected using low level disinfectants. Not every hospital or facility will require sterile processing staff to complete these tasks; Distribution technicians will assume the duties in such cases and perform the necessary disinfection procedures.

Objectives:

- Discuss sterile storage and transport considerations, concerns, and guidelines

- Explain the importance of monitoring work areas and processes and recordkeeping for quality control
- Describe common quality assurance programs and procedures in the Sterile Processing department
- Explain the basics of failure mode and effects analysis and root cause analysis
- Identify the importance of inventory management and the role of Sterile Processing technicians
- Describe common inventory replenishment systems and the cycle of consumable items
- Provide an overview of the use of information management systems in Central Service Departments including features of instrument and equipment tracking systems
- Explain the importance of safety and risk management in the Central Service department including education and reporting procedures
- Review three common workplace hazards: fire, hazardous substances, and bloodborne pathogens

Externship

11 Credits/500 Clock-Hours

Externship is arranged by the program coordinator with participating hospitals and facilities to accommodate students to work in the sterile processing departments. Students will be able to put their skills learned in the classroom and lab to use in the field. The externship may be paid if the student gains employment, as well as unpaid, if the student chooses to work in the hospital or facility on a volunteer only basis. Students will submit the hours worked and in what area (decontamination, assembly, sterilization, sterile storage, QA) to their instructor for verification of proper externship work and hours. Once the student reaches 400 externship hours, they're eligible to sit for the HSPA CRCST exam. When the student has completed 450 hours, they will have completed the program in its entirety.

Objectives:

- Apply the knowledge learned in the classroom to real world situations
- Demonstrate the hands-on skills mastered in the lab to the Sterile Processing departments in hospitals or facilities (Ambulatory Surgery Centers, Dental Clinics, Plastic Surgery Centers)



Utah System of Higher Education
Nursing Assistant
FY2023 / 3 Credits (114 Clock-Hours)

Nursing Assistant			
Institutions: Bridgerland, Davis, Dixie, Mountainland, Ogden-Weber, Salt Lake, Snow, Southwest, Tooele, Uintah Basin, USU-Eastern			
<i>Certificate of Program Completion (Catalog Year: 2023, 3 Credits/114 Clock-Hours Required, CIP: 51.3902)</i>			
Core (3 Credits/114 Clock-Hours)		Credits	Clock-Hours
PREF XXXX	Nursing Assistant	3	114



Utah System of Higher Education

Nursing Assistant

FY2023 / 3 Credits (114 Clock-Hours)

PROGRAM DESCRIPTION

The Nursing Assistant program is designed for students to receive their certification by completing coursework in classroom and clinical settings.

Objectives:

- Explain activities of daily living and nursing assistant scope of practice
- Demonstrate correct recognizing and reporting, communication, infection control, safety, and residents' rights in the care setting
- Demonstrate proficiency in all skills required for state certification
- Perform nursing assistant skills in a healthcare setting

COURSE DESCRIPTIONS

Nursing Assistant

3 Credits/114 Clock-Hours

The Nursing Assistant course introduces students to basic nursing skills in a classroom and laboratory setting. This course includes 24 hours of clinical experience.

Objectives:

- Explain activities of daily living and nursing assistant scope of practice
- Describe how critical criteria such as recognizing and reporting, communication, infection control, safety, and residents' rights are applied in the care setting
- Demonstrate proficiency in all skills required for state certification
- Perform nursing assistant skills in a healthcare setting



Utah System of Higher Education
 Medical Scribe
 FY2023 / 15 Credits (480 Clock-Hours)

Medical Scribe			
Institutions: Ogden-Weber			
<i>Certificate of Program Completion (Catalog Year: 2023, 15 Credits/480 Clock-Hours Required, CIP: 51.0707)</i>			
Core (15 Credits/480 Clock-Hours)		Credits	Clock-Hours
MEDS 0805	Beginning Medical Scribe	2	60
HLTH 1000	Medical Terminology	2	60
HLTH 1010	Anatomy and Physiology	3	90
MEDS 0810	Keyboarding for Medical Scribes	1	30
MEDS 0825	Health Insurance & Billing Basics	1	30
MEDS 0835	Medical Scribe Clinical Applications	3	90
MEDS 0845	Job Seeking Skills for Medical Scribes	1	30
MEDS 0870	Medical Scribe Externships	2	90



Utah System of Higher Education

Medical Scribe

FY2023 / 15 Credits (480 Clock-Hours)

PROGRAM DESCRIPTION

The Medical Scribe program prepares students to work as a medical scribe specialist. Students learn to use electronic health records (EHR) in order to document medical data obtained during patient visits. Students are required to synthesize and organize this data into a coherent entry so that it complies with federal regulations and insurance requirements. Students gain basic knowledge of medical terminology, anatomy and physiology; fundamental understanding of insurance billing and coding and entry-level knowledge of medical law.

Objectives:

The Medical Scribe program prepares students to perform specific entry-level skills and verify knowledge required for the occupation, to include the following:

- Medical terminology, anatomy, physiology, and medical law knowledge
- Basic knowledge of EHRs including data entry, formatting of information obtained during the physical examination and prescribed treatments
- Typing proficiency of at least 60 words per minute
- Fundamental understanding of the documentation required by insurance billing and coding entities
- Basic telephone etiquette and triage
- Ability to work competently and in a timely manner to complete assigned work.

COURSE DESCRIPTIONS

Beginning Medical Scribe

2 Credits/60 Clock-Hours

This course is an introduction to the duties and responsibilities of the medical scribe in the primary care and emergency department environments. The course provides an overview of the daily duties performed by medical scribes and covers basic pharmacology, medicolegal considerations regarding patient privacy and the elements that comprise the medical note.

Objectives:

- Describe the general roles and responsibilities of the medical scribe
- List duties which are prohibited to be performed by medical scribes
- Describe the classification and recommended uses of common medications used in the primary care and emergency room setting
- Define the elements that comprise the medical note
- Give examples of the common reasons for visits in the family practice/primary care clinic
- Give examples of the common reasons for visits to the emergency department
- Describe protected health information (PHI) as stated in the HIPAA Privacy Rule
- List common day-to-day security practices performed by clinic personnel to prevent unlawful disclosures of PHI.
- Compare and contrast the differences between the EMR and EHR systems used health care facilities

Medical Terminology

2 Credit/60 Clock-Hours

This course will provide instruction on how to interpret and understand medical language as well as the basic structure of medical words. Additionally, this course will explore interpretations of medical abbreviations for those seeking a career in medicine.

Objectives:

- Identify the role of the four main types of word parts that make up medical terms.



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Medical Scribe

FY2023 / 15 Credits (480 Clock-Hours)

- Define word parts
- Define medical words.
- Describe steps to locate medical words using either a medical dictionary or an online resource.
- Write the singular, plural and adjective forms of medical words.
- Recognize the importance of spelling medical terms correctly.

Anatomy and Physiology

3 Credits/90 Clock-Hours

This course will explore the basic structure and function of the human body, as well as common disease processes and treatments.

Objectives:

- Describe the structural organization of the human body
- List the body systems
- Describe body planes, directional terms, quadrants and cavities
- List the major organs that comprise each body system
- Identify the anatomical location of major organs in each body system
- Compare the structure and function of the human body across the life span
- Describe the normal function of each body system
- Identify common pathology related to each body system

Keyboarding for Medical Scribes

1 Credits/30 Clock-Hours

This is a computer-based, self-paced course designed to develop typing speed and accuracy to a minimum proficiency of 60 wpm.

Objectives:

- Demonstrate a minimum typing speed of 60 words per minute on the course exit evaluation
- Demonstrate a typing accuracy that does not exceed the number of errors allowed in each exercise and the course exit evaluation.
- State the ergonomic elements that can reduce typing-related injuries

Health Insurance & Billing Basics

1 Credits/30 Clock-Hours

This course provides an introduction to medical insurance coding, billing, and claim processing procedures and how it relates to the documentation in the patient's health record. Provides instruction and practice of medical office financial procedures.

Objectives:

- Describe how documentation in the electronic health record (EHR) affects the billing and coding process
- Define evaluation and management (E/M) levels and their purpose in the claims and billing process
- Define Current Procedural Terminology (CPT) and its purpose in the billing process
- Define the Quality Payment Program
- List the 10 steps of the billing process

Medical Scribe Clinical Applications

3 Credits/90 Clock-Hours

This course provides practice in synthesizing a complete and accurate medical note from the interaction observed between the provider and the patient. Emphasis will be placed on using correct terminology, abbreviations, spelling, and format. Instruction will also include accessing, navigating, and entering information into the electronic health record.

Objectives:



Utah System of Higher Education

Medical Scribe

FY2023 / 15 Credits (480 Clock-Hours)

- Document the patient/provider encounter into the electronic patient record.
- Make corrections as necessary to the health record that meet legal requirements.
- Describe the elements that comprise a complete medical note.
- Anticipate and retrieve relevant documents related to the patient's condition the provider might need.
- Identify the elements necessary for E/M determination by coding and billing staff.
- Navigate the EHR/EMR before, during and after the patient encounter.

Job Seeking Skills for Medical Scribes

1 Credits/30 Clock-Hours

This course provides experience in developing job-seeking skills necessary to find gainful employment.

Objectives:

- Complete a resume
- Complete a reference sheet
- Complete a cover letter
- Respond to common job interview questions
- Compile a list of questions to ask in job interviews
- Write a thank-you letter after an interview
- Participate in a practice job interview

Medical Scribe Externships

2 Credits/90 Clock-Hours

This course gives students practical clinical experience working as a medical scribe in an operational medical facility. Medical scribe students will work under the direction of a clinical supervisor and are expected to apply the knowledge and skills learned in the classroom to a clinical setting. Additionally, this course provides students with experience in developing job-seeking skills necessary to find gainful employment.

Objectives:

- Perform skills of the medical scribe under the direction of a clinical supervisor.



Utah System of Higher Education
 Plumbing Apprenticeship
 FY2023 / 24 Credits (720 Clock-Hours)

Plumbing Apprenticeship			
Institutions: Bridgerland, Davis, Dixie, Mountainland, Ogden-Weber, Salt Lake, Southwest			
<i>Certificate of Program Completion (Catalog Year: 2023, 24 Credits/720 Clock-Hours Required, CIP:46.0503)</i>			
Core (32 Credits/1140 Clock-Hours)		Credits	Clock-Hours
PREF XXXX	Plumbing IA	3	90
PREF XXXX	Plumbing IB	3	90
PREF XXXX	Plumbing IIA	3	90
PREF XXXX	Plumbing IIB	3	90
PREF XXXX	Plumbing IIIA	3	90
PREF XXXX	Plumbing IIIB	3	90
PREF XXXX	Plumbing IVA	3	90
PREF XXXX	Plumbing IVB	3	90



Utah System of Higher Education

Plumbing Apprenticeship

FY2023 / 24 Credits (720 Clock-Hours)

PROGRAM DESCRIPTION

The Plumbing Apprenticeship program satisfies the educational requirements to take the State Journeyman Plumber Exam. To complete the entire Apprentice Plumbing Program, an individual must be licensed through the State and work under the supervision of a licensed Journeyman Plumber. A basic assessment is required prior to enrolling. This program provides a solid understanding of the International Plumbing Code (IPC), its layout, and the requirements for different plumbing systems and parts of those systems. This program discusses the processes, parts, and risks involved with the various plumbing systems as well as the safety equipment and measures that are in place to protect plumbers and the public alike.

Objectives:

- Determine the application of the International Plumbing Code (IPC)
- Demonstrate how to navigate the International Plumbing Code (IPC)
- Calculate sizing of various piping, including natural gas, supply, and waste lines
- Demonstrate the application of the International Fuel Gas Code
- Demonstrate the application of the International Mechanical Code
- Demonstrate practical application of plumbing mathematics
- Apply critical and practical thinking skills necessary to pass the State Journeyman's Test

COURSE DESCRIPTIONS

Plumbing IA

3 Credits / 90 Clock-Hours

The Plumbing IA course explores the secure and highly demanded profession of plumbing. The primary emphases include: the understanding and interpretation of the International Plumbing Code (IPC), blueprint reading, materials and requirements, practical mathematics required in plumbing, and other subject areas that are essential to the trade which are more conducive to the classroom setting than a work environment.

Objectives:

- Certify in First Aid Cardiopulmonary Resuscitation (CPR) and Automated External Defibrillator (AED)
- Practice safety and the proper use of tools and leveling instruments
- Define hydraulics and pneumatics
- Interpret building and plumbing codes
- Apply basic mathematics toward measurements, angles, slopes, and other plumbing related problems
- Fabricate plumbing projects in a lab setting

Plumbing IB

3 Credits / 90 Clock-Hours

The Plumbing IB course introduces the fundamentals of plumbing theory for the apprentice plumbers and will cover the International Plumbing Code, related math, and craft skills.

Objectives:

- Identify fixtures, faucets and fixture fittings, water heaters, traps, interceptors and separators
- Develop basic skills needed to read drawings and produce piping sketches
- Apply mathematics related to plumbing and angles
- Implement the process of making watertight joints using heat and various filler metals

- Define machine and hand excavating with emphasis on safety
- Explain various types of pipe and fittings used in residential and light commercial plumbing systems
- Fabricate several piping projects in a lab situation

Plumbing IIA

3 Credits / 90 Clock-Hours

The Plumbing IIA course introduces the fundamentals of plumbing theory for the apprentice plumbers and covers the International Plumbing Code (IPC), related math, and craft skills.

Objectives:

- Describe water supply and distribution, sanitary drainage, indirect/special waste, vents, traps, interceptors and separators, along with other basic fundamental plumbing components
- Identify the many different fixtures designed for residential and small commercial buildings
- Apply correct principles for designing Drainage, Waste, and Vent (DWV) and water supply systems that will provide long and satisfactory service
- Describe how to determine the size of water supply piping
- Define how to support and test both DWV and water supply systems
- Explain R317-4 onsite wastewater systems
- Fabricate several piping projects in a lab situation

Plumbing IIB

3 Credits / 90 Clock-Hours

The Plumbing IIB course continues to explore the fundamentals of plumbing theory for the apprentice plumbers and covers the International Plumbing Code (IPC), related math, and craft skills.

Objectives:

- Explain storm drainage and special piping and storage systems
- Calculate grade, percent grade, drop and run, and offsets
- Cite proper construction and operation of private waste-disposal systems
- Identify the basic components, design considerations, and installation techniques of swimming pools, hot tubs, and spas
- Describe the components and materials used in lawn and garden irrigation systems
- Troubleshoot, recognize, and repair problems associated with plumbing systems
- Fabricate several piping projects in a lab situation

Plumbing IIIA

3 Credits / 90 Clock-Hours

The Plumbing IIIA course continues to explore the fundamentals of plumbing theory for the apprentice plumbers and covers the International Plumbing Code (IPC), International Fuel Gas Code (IFGC) and International Mechanical Code (IMC), along with related math and craft skills.

Objectives:

- Identify materials detrimental to sewer systems
- Determine protection of pipes and plumbing system components
- Explain washroom and toilet room requirements
- Describe specialty plumbing fixtures
- Determine proper water heater, vents, and combustion air installation requirements as per the International Mechanical Code (IMC) and the International Fuel Gas Code (IFGC)
- Calculate combustion air, chimneys, and vent sizes
- Determine volume of Rectangular Solids, Cylinders

- Identify NPFA 13D residential fire sprinklers
- Fabricate several piping projects in a lab situation

Plumbing IIIB

3 Credits / 90 Clock-Hours

The Plumbing IIIB course introduces the fundamental Plumbing theory for the Apprentice Plumbers and covers the International Plumbing Code (IPC), International Fuel Gas Code and International Mechanical Code, along with related math and craft skills.

Objectives:

- Calculate size of fuel piping and fuel-gas piping
- Describe vents and commercial/industrial application
- Describe indirect/special waste and commercial/industrial application
- Calculate size of water supply and distribution review and commercial/industrial applications.
- Identify special piping and storage systems
- Explain Utah Amendments and R617-4
- Fabricate several piping projects in a lab situation
- Calculate sizing of various water and drain piping systems

Plumbing IVA

3 Credits / 90 Clock-Hours

The Plumbing IVA course reviews the International Plumbing Code (IPC), International Fuel Gas Code and International Mechanical Code, math, and other laws in preparation for taking the journeyman state test.

Objectives:

- Define all chapters of the International Plumbing Code
- Apply mathematics related to plumbing, angles, rolling offsets and pipe lengths
- Explain storm drainage and commercial/industrial application for sizing roof drains
- Explain International Mechanical Code for general, combustion air, boilers, and hydronics
- Discuss Utah Amendments to the Code
- Identify National Fire Protection Association (NFPA) 13D residential fire sprinklers
- Explain R317-4 onsite wastewater
- Fabricate several piping projects in a lab situation

Plumbing IVB

3 Credits / 90 Clock-Hours

The Plumbing IVB course assists the apprentices in passing the state test and provides a foundation for success as a journeyman plumber. A variety of modules are available for the student to work from, with a focus on what each individual student needs in order to prepare for the test.

Objectives:

- Review International Plumbing Code (IPC) chapters
- Apply mathematics for plumbers and pipefitters
- Use International Fuel Gas Code for gas pipe installation and sizing
- Define traps and commercial applications
- Explain storm drainage and commercial/industrial applications
- Identify boilers, water heaters, and pressure vessels
- Perform applied trade formulas using different equations
- Calculate heat loss vs. radiator size
- Determine radiation sizing for total heat loss of a room

- Use Journeyman skills such as takeoff lists, leadership skills, communication, and basic business skills
- Fabricate several piping projects in a lab situation



Utah System of Higher Education
 Real Estate
 FY2023 / 4 Credits (120 Clock-Hours)

Real Estate			
Institutions: Bridgerland, Ogden-Weber			
<i>Certificate of Program Completion (Catalog Year: 2023, 4 Credits/120 Clock-Hours Required, CIP: 52.1501)</i>			
Core (4 Credits/120 Clock-Hours)		Credits	Clock-Hours
PREF XXXX	Pre-licensing	4	120
Non-Required Electives (0 Credits/0 Clock-Hours)			
Ogden-Weber Technical College			
PREF XXXX	Broker License	4	120



Utah System of Higher Education

Real Estate

FY2023 / 4 Credits (120 Clock-Hours)

PROGRAM DESCRIPTION

The Real Estate program is state approved and designed to prepare students to pass the licensing exams and earn a real estate license in the State of Utah. Utah law requires that students complete a 120-hour educational course before they take the Utah real estate licensing exam. Our Pre-Licensing course includes instruction and review tests to prepare students to take the Utah real estate sales agent exam.

Objectives:

- Define and describe real property, land, and real estate
- Distinguish between real and personal property
- Compute basic math skills including profit & loss, simple interest, proration, commissions, etc.
- Identify the approved forms and addenda a licensee may fill out and the circumstances under which each should be used.
- Define closing as it relates to a real estate transaction
- Differentiate between debits and credits
- Explain how it is determined where debits and credits go on the settlement statement.
- Explain the term “agency” and the different agency types
- Use the proper forms of agency including the relationship between agent, subagent, client, and customer.
- Compare and contrast the various types of ownership, and indicate situations when each would be appropriate or required.

COURSE DESCRIPTIONS

Pre-licensing

4 Credits/120 Clock-Hours

The Real Estate course is state approved and designed to prepare students to pass the licensing exams and earn a real estate license in the State of Utah. Utah law requires that students complete a 120-hour educational course before they take the Utah real estate licensing exam. Our Pre-Licensing course includes instruction and review tests to prepare you to take the Utah real estate sales agent exam.

Objectives:

- Define and describe real property, land and real estate
- Distinguish between real and personal property
- Compute basic math skills including profit & loss, simple interest, proration, commissions, etc.
- Identify the approved forms and addenda a licensee may fill out and the circumstances under which each should be used
- Define closing as it relates to a real estate transaction
- Differentiate between debits and credits
- Explain how it is determined where debits and credits go on the settlement statement
- Explain the term “agency” and different agency types
- Use of the proper forms of agency including the relationship between agent, subagent, client and customer
- Compare and contrast the various types of ownership, and indicate situations when each would be appropriate or required

NON-REQUIRED ELECTIVES

Broker License**4 Credits/120 Clock-Hours**

The Broker License course satisfies the requirements to become a licensed State of Utah Broker. This course explores various modules designed to prepare for the State of Utah Broker licensing exam. This course focuses on the statutory licensing qualifications of honesty, integrity, truthfulness, reputation and competency. Students must have three years full-time, licensed, active real estate experience; or two years full-time, licensed, active, real estate experience and one-year full-time professional real estate experience, as well as accumulated a total of at least 60 documented experience points that comply with State of Utah requirements within the past five years preceding the date of enrollment into this course.

Objectives:

- Complete 30 hours of Utah Law including 3 hours testing
- Complete 45 hours of Broker Principles including 4 hours of testing
- Complete 45 hours of Broker Practices including 4 hours testing
- Define and describe real property, land and real estate, and distinguish between real and personal property
- Compute basic math skills including profit & loss, simple interest, proration, commissions, etc.
- Identify the approved forms and addenda a licensee may fill out and the circumstances under which each should be used
- Define closing as it relates to a real estate transaction
- Differentiate between debits and credits
- Explain how it is determined where debits and credits go on the settlement statement.
- Explain the term “agency” and the different agency types
- Use of the proper forms of agency including the relationship between agent, subagent, and client and customer
- Compare and contrast the various types of ownership, and indicate situations when each would be appropriate or required



Utah System of Higher Education
Clinical Lab Assistant
FY2023 / 9 Credits (365 Clock-Hours)

Clinical Lab Assistant			
Institutions: Salt Lake			
<i>Certificate of Program Completion (Catalog Year: 2023, 9 Credits/365 Clock-Hours Required, CIP: 51.0802)</i>			
Core (9 Credits/365 Clock-Hours)		Credits	Clock-Hours
KAOS 0170	Computer Concepts	1	30
KMOA 0111	Medical Terminology	2	70
KCLA 0010	Intro to Healthcare	1	50
KCLA 0020	Admin Healthcare Procedures	1	45
KCLA 0030	Basic Healthcare Procedures	1	50
KCLA 0040	Clinical Lab Procedures I	3	105
KWRK 0515	Job Seeking Skills	0	15
Non-Required Electives (0 Credits/0 Clock-Hours Required)			
KCLA 0050	Clinical Lab Externship	1	64



Utah System of Higher Education

Clinical Lab Assistant

FY2023 / 9 Credits (365 Clock-Hours)

PROGRAM DESCRIPTION

The Clinical Lab Assistant Program, a Competency Based Education training program, will provide students with the necessary knowledge and skills to competently perform the duties of a medical laboratory assistant. Clinical Lab Assistants are trained to work in doctors' offices, hospital laboratories and other outpatient labs as an integral member of the allied health care delivery team.

The curriculum will allow the students to gain competency in cognitive, psychomotor and affective competencies. The program will be offered in a flexible open entry / open exit format.

Instruction will be achieved with a combination of online, classroom, laboratory, and clinical activities

Upon successful completion of the coursework at a satisfactory rate of 80% or better and receipt of all necessary documentation the student will receive the Certificate of Achievement.

Objectives:

- Demonstrate ability to use a computer and utilize computer programs to complete basic tasks
- Demonstrate ability to manage files and folder
- Define and use medical terminology, basic word structure, and body organization
- Define and use medical terminology suffixes and prefixes
- Define and use medical terminology for medical specialties and body systems
- Define the history of medicine, the role of the clinical lab assistant, medical specialties, credentialing and personal attributes of health care personnel
- Define and use legal and ethical standards in health care
- Demonstrate principles of HIPAA regulations
- Demonstrate knowledge of patient communication and cultural diversity in health care
- Demonstrate reception, general office duties, appointment scheduling and written communication in a health care setting
- Create patient records and demonstrate correct filing
- Perform appointment scheduling, patient registration and medical record maintenance electronically
- Apply CDC and OSHA guidelines for personal safety and asepsis while performing aseptic and sterilization techniques and procedures
- Obtain accurate vital signs using correct procedures
- Demonstrate first aid techniques and Healthcare Provider level CPR as defined by the American Heart Association
- Define anatomy of venous structures and successfully perform technically correct and safe venipuncture using vacutainer, butterfly and syringe techniques and correctly process the specimen
- Define and demonstrate basic concepts of clinical lab procedures, safety and proper use of the microscope
- Define and demonstrate CLIA waived testing in hematology and serology
- Define and demonstrate laboratory testing in microbiology and urinalysis
- Find job leads and connections
- Create resume and cover letter
- Complete job application and follow-up
- Perform well in a job interview

COURSE DESCRIPTIONS

Computer Concepts

1 Credit/30 Clock-Hours

In this course, you will learn about basic computer concepts that will help you succeed in your program of study. This course is the foundation course for all programs. The skills you learn in this course will be used through all your courses you take. As you progress through this course, you will be completing a series of activities that will build your computer knowledge and skills. Your knowledge and skills will add up to become a competency.

Objectives:

- Use the basic features of a learning management system to complete course work
 - Demonstrate how to successfully login and log off of Canvas
 - Demonstrate how to find a course
 - Show how to navigate through a course
 - Demonstrate how to submit assignments
 - Complete assessments
 - Demonstrate how to check grades
- Explain the parts of a computer and functionality of the hardware components.
 - Describe the purpose of the basic hardware parts of a computer
 - Describe the functionality of computer components
- Demonstrate a basic ability to use a computer running either a Windows or Apple operating system
 - Demonstrate how to turn on the computer and login to the computer
 - Use basic desktop elements to complete tasks
 - Demonstrate file management skills
 - Demonstrate how to log off and shut down the computer
- Use Microsoft Word to generate documents
 - Start Microsoft Word and choose a blank document
 - Create and format a document using the tools on the Ribbon
 - Save a document using the Backstage view
- Use a search engine to find information on the Internet
 - Differentiate between a search engine and browser
 - Identify relevant keywords to perform an Internet search
 - Use Internet search criteria to build web search queries
 - Determine if the website is a credible source
 - Explain malware and the kinds of damage it can cause to a computer

Medical Terminology

2 Credits/70 Clock-Hours

This course will introduce you to the skills necessary to interpret and understand medical terminology, in order to be successful in the pursuit of health occupation careers. This is accomplished by utilizing a method of study that not only instructs the students in building medical terms but also gives the student immediate application in utilizing the medical term. By knowing this you will recognize and understand this new language that will be essential as you begin a career in the healthcare environment!

Objectives:

- Define and use medical terminology basic word structure and body organization
- Define and use medical terminology suffixes and prefixes
- Define and use medical terminology for medical specialties and body systems

Intro to Healthcare**1 Credit/50 Clock-Hours**

In this course, you will get an overview of the various healthcare professions and roles in the healthcare environment, introduction to the legal and ethical issues within the healthcare setting, professional behavior, basic principles of communication and the impact of ethnic cultures in healthcare.

Objectives:

- Describe foundational information related to the medical field
- Explain the reasons professionalism and work ethics are important in the medical field
- Apply ethical standards in healthcare
- Apply legal expectations in healthcare
- Demonstrate the principles of HIPAA regulations by completing the HIPAA certification
- Demonstrate communication skills within a healthcare setting

Admin Healthcare Procedures**1 Credit/45 Clock-Hours**

Provides training in proficient medical office communication, front office administrative skills, and the fundamentals of beginning and tracking a patient record using both paper and electronic medical record (EMR) software.

Objectives:

- Demonstrate written communication in a healthcare setting
- Apply proper telephone techniques in a healthcare setting
- Apply proper patient reception and appointment scheduling techniques in a healthcare setting
- Apply daily operations in a healthcare setting
- Demonstrate how to properly create and maintain electronic medical records
- Apply meaningful use strategies to meet quality improvement outcome initiatives

Basic Healthcare Procedures**1 Credit/50 Clock-Hours**

Provides guidelines to learn about and apply standards of CDC and OSHA in regard to personal safety, asepsis, standard precautions and handling of biohazard wastes. Provides fundamental understanding and skills to obtain vital signs, basic first aid and healthcare provider level CPR.

Objectives:

- Explain the transmission of disease
- Differentiate aspects of medical asepsis and sterilization
- Perform aseptic techniques and sterilization procedures
- Apply CDC and OSHA guidelines for personal safety
- Obtain accurate vital signs using correct procedures
- Demonstrate first aid techniques
- Demonstrate Healthcare Provider level CPR as defined by the American Heart Association

Clinical Lab Procedures I**3 Credits/105 Clock-Hours**

Provides understanding of phlebotomy theory and skill performance; and of basic concepts, safety and procedures of the clinical lab. Learn proper handling and performance of CLIA waived hematology/serology labs and proper specimen handling and performance of microbiology and urinalysis testing.

Objectives:

- Differentiate the anatomy of venous structures essential in phlebotomy
- Recognize legal aspects of phlebotomy

- Distinguish equipment and supplies used to obtain blood samples
- Successfully perform technically correct and safe venipuncture using vacutainer butterfly, and syringe techniques
- Process laboratory specimens using proper techniques
- Utilize basic concepts of clinical lab procedures
- Practice clinical laboratory safety procedures
- Demonstrate proper use of laboratory equipment
- Discuss CLIA waived testing in hematology and serology
- Demonstrate CLIA waived testing in hematology and serology
- Discuss laboratory testing in microbiology
- Demonstrate laboratory testing in microbiology
- Discuss laboratory testing of urine samples
- Demonstrate laboratory testing of urine samples

Job Seeking Skills

0 Credits/15 Clock-Hours

This course will prepare you to succeed, as we explore a variety of tools and strategies, to make your transition to employment as smooth as possible. Proper preparation is often as important as the skills you have already acquired. The process of obtaining employment is often discouraging and grueling. The Job Seeking Skills course will cover many aspects of job searching, including; summarizing your skills, searching for job leads in unconventional ways, filling out applications, writing a resume and cover letter, interview etiquette, and lastly, a follow up letter.

Objectives:

- The student will be able to identify and explain personal employment direction and qualifications.
- The student will be able to complete the job application process.
- The student will be able to search for employment in their area of study and explain how social media will impact a job search.
- The student will be able to successfully complete a 20-minute mock interview.

Non-Required Electives (0 Credits/0 Clock-Hours Required)

Clinical Lab Externship

1 Credit/64 Clock-Hours

This stand-alone course is not a required part of the Clinical Lab Assistant program but can provide an opportunity for students that have completed that program to demonstrate and practice their laboratory skills learned in the classroom in a clinical setting with the oversight of the clinical supervisor. This allows the student to obtain real-world laboratory experience that will enhance their knowledge and skills, and allow them to obtain the required laboratory hours needed for a national certification exam for this vocation. This is an unpaid practicum experience that is an extension of your classroom training and will include tuition to SLCC SAT.

Objectives:

- Apply knowledge related to Clinical Laboratory procedures, processes, and environment
- Perform Clinical Laboratory procedures safely and accurately
- Demonstrate professional behaviors in the healthcare setting



Utah System of Higher Education
 Medical Office Administration
 FY2023 / 21 Credits (795 Clock-Hours)

Medical Office Administration			
Institutions: Salt Lake			
<i>Certificate of Program Completion (Catalog Year: 2023, 21 Credits/795 Clock-Hours Required, CIP: 51.0705)</i>			
Core (21 Credits/795 Clock-Hours)		Credits	Clock-Hours
KAOS 0170	Computer Concepts	1	30
KAOS 0500	Word Basics	1	40
KAOS 0400	Business Writing	2	70
KAOS 0600	Spreadsheets I	1	40
KMOA 0111	Medical Terminology	2	70
KMOA 0145	Anatomy & Physiology	1	50
KMOA 0120	Medical Law & Ethics	2	60
KMOA 0130	Psychology for Healthcare	1	30
KMOA 0155	Medical Office Procedures I	2	60
KMOA 0170	Medical Office Procedures II	2	60
KMOA 0180	Medical Office Procedures III	2	60
KMOA 0101	First Aid/CPR	0	10
KAOS 0300	Customer Relations	1	40
KWRK 0515	Job Seeking Skills	0	15
KMOA 0211	Med Office Externship	3	160
TOTALS		21	795



Utah System of Higher Education

Medical Office Administration

FY2023 / 21 Credits (795 Clock-Hours)

PROGRAM DESCRIPTION

The Medical Office Administration Program, a Competency Based Education training program, will provide students with the necessary knowledge and skills to competently perform the duties of administrative medical office staff as defined by local and national standards. Medical Office Administration employees are trained primarily to work in doctors' offices and other ambulatory care clinics as an integral member of the allied health care delivery team helping with administrative tasks including business functions, medical records, patient intake, billing and insurance and other front office tasks.

The Medical Office Administration program will be offered in a flexible open entry / open exit format. They will be trained in administrative areas of medical office along with CPR and First Aid, anatomy, physiology and medical terminology. The curriculum will allow the students to gain competency in cognitive, psychomotor and affective competencies.

Instruction will be achieved with a combination of online, classroom and clinical activities that will include experience in a healthcare facility. Students must demonstrate proficiency by passing all courses and competencies required in the program before being placed in a clinical site for the externship. Students complete a 160-hour unpaid clinical externship at a health care facility contracted with the college. Students are required to provide the externship coordinator of the Applied Technology division of the School of Applied Technology and Professional Development, evidence of completion of these hours and satisfactory performance signed by the clinical administrative supervisor.

Upon successful completion of the coursework and externship at a satisfactory rate of 80% or better and receipt of all necessary documentation the student will receive the Certificate of Completion.

Objectives:

- Demonstrate ability to use a computer and utilize computer programs to complete basic tasks
- Demonstrate ability to manage files and folder
- Define and use medical terminology basic word structure and body organization
- Define and use medical terminology suffixes and prefixes
- Define and use medical terminology for medical specialties and body systems
- Define legal and ethical responsibilities in healthcare
- Define privacy practices and HIPAA regulations in the medical setting
- Define legal terms
- Define the developmental stages related to psychology and patient communication
- Interpret the impact of cultural differences in healthcare
- Define and use medical terms used in psychiatry
- Define anatomy and physiology in relation to planes, cavities, regions, directions and systems
- Define anatomy, physiology, pathologies and associated treatment in relation to the integumentary system, skeletal system, muscular system, and nervous system
- Define anatomy, physiology, pathologies, and associated treatment in relation to the endocrine system, cardiovascular system, lymphatic system, and digestive system.
- Define anatomy, physiology, pathologies and associated treatment in relation to the respiratory system, urinary system and reproductive system
- Define the history of medicine, the role of the medical assistant, medical specialties, credentialing and personal attributes of health care personnel

- Apply proper telephone techniques, patient reception, appointment scheduling techniques and daily operations in a healthcare setting
- Create professional written communications
- Prepare patient records on paper and electronically including correct use of health information management
- Perform financial office procedures related to health care environment on paper and electronically
- Define medical office management
- Apply healthcare insurance types, utilization, and guidelines
- Utilize diagnostic coding systems
- Utilize procedural coding systems
- Demonstrate first aid techniques
- Demonstrate Healthcare Provider level CPR as defined by the American Heart Association
- Find job leads and connections
- Create resume and cover letter
- Complete job application and follow-up
- Perform well in a job interview

COURSE DESCRIPTIONS

Computer Concepts

1 Credit/30 Clock-Hours

In this course, you will learn about basic computer concepts that will help you succeed in your program of study. This course is the foundation course for all programs. The skills you learn in this course will be used through all your courses you take. As you progress through this course, you will be completing a series of activities that will build your computer knowledge and skills. Your knowledge and skills will add up to become a competency.

Objectives:

- Use the basic features of a learning management system to complete course work.
 - Demonstrate how to successfully login and logoff of Canvas
 - Demonstrate how to find a course
 - Show how to navigate through a course
 - Demonstrate how to submit assignment
 - Complete assessments
 - Demonstrate how to check grades
- Explain the parts of a computer and functionality of the hardware components
 - Describe the purpose of the basic hardware parts of a computer
 - Describe the functionality of computer components
- Demonstrate a basic ability to use a computer running either a Windows or Apple operating system
 - Demonstrate how to turn on the computer and login to the computer
 - Use basic desktop elements to complete tasks
 - Demonstrate file management skills
 - Demonstrate how to log off and shut down the computer
- Use Microsoft Word to generate document
 - Start Microsoft Word and choose a blank document
 - Create and format a document using the tools on the Ribbon
 - Save a document using the Backstage view
- Use a search engine to find information on the Internet
 - Differentiate between a search engine and browser

- Identify relevant keywords to perform an Internet search
- Use Internet search criteria to build web search queries
- Determine if the website is a credible source
- Explain malware and the kinds of damage it can cause to a computer

Word Basics

1 Credit/40 Clock-Hours

Course will introduce student to the basic functions and uses of MS Word software application, including the formatting and editing of documents, as well as features such as tables, styles, and mail merge. Prepares students with elements required for MOS exam.

Objectives:

- Demonstrate the use of the college LMS
- Demonstrate how to open, close, create, save, rename, and print MS Word documents
- Demonstrate how to use clipboard for cutting, copying and pasting functions
- Demonstrate how to format and edit text, tables, paragraphs, and pages
- Demonstrate how to add themes, styles, and templates to a document
- Demonstrate how to manage headers, footers, sections, and mail merge
- Demonstrate how to use macros
- Demonstrate how to use mail merge

Business Writing

2 Credits/70 Clock-Hours

Course presents elements of business writing, including grammar and proofreading review. Student will develop various business communication documents, including memos, email, and resumes.

Course presents elements of business writing, including grammar and proofreading review. Student will develop various business communication documents, including memos, email, and resumes.

Objectives:

- Navigate and use the school LMS
- Demonstrate the correct use of English grammar
- Identify common grammar errors
- Proofread a document for errors
- Create a variety of business documents, including emails, memos, and letters in proper format
- Develop a complete, ready-to-go resume, cover letter, and thank you note

Spreadsheets I

1 Credit/40 Clock-Hours

Course covers basic applications of Excel software. Coverage includes formatting and modifying cells and worksheets, use of simple functions, and creation of charts.

Objectives:

- Demonstrate the use of the college LMS
- Demonstrate how to open, close, create, save and rename, and print MS Excel workbooks
- Demonstrate how to use the clipboard for cutting, copying and pasting functions
- Demonstrate how to format text and cells
- Demonstrate how to enter simple functions
- Demonstrate how to create charts to display data
- Demonstrate how to organize data into tables

Medical Terminology

2 Credits/70 Clock-Hours

This course will introduce you to the skills necessary to interpret and understand medical terminology, in order to be successful in the pursuit of health occupation careers. This is accomplished by utilizing a method of study that not only instructs the students in building medical terms but also gives the student immediate application in utilizing the medical term. By knowing this you will recognize and understand this new language that will be essential as you begin a career in the healthcare environment!

Objectives:

- Define and use medical terminology basic word structure and body organization
- Define and use medical terminology suffixes and prefixes
- Define and use medical terminology for medical specialties and body systems

Anatomy & Physiology

1 Credit/50 Clock-Hours

Anatomy and physiology is the study of the structure and function of the human body. This course includes a review of all organ systems and includes disease processes and diagnostic treatment. It is important for a future healthcare professional to have a basic understanding of the structure of the body which is the anatomy portion. It is equally important to understand how each of the body systems functions by itself as well as working in collaboration with the other body systems.

Objectives:

- Interpret anatomy and physiology in relation to planes, cavities, regions, directions and systems
- Interpret basic anatomy, physiology, and pathologies as it relates to
 - Integumentary system
 - Skeletal system
 - Muscular system
 - Nervous system
 - Endocrine system
 - Cardiovascular system
 - Lymphatic system
 - Digestive system
 - Respiratory system
 - Urinary system
 - Reproductive system

Medical Law & Ethics

2 Credits/60 Clock-Hours

This course provides the student exposure to the legal and ethical issues that impact the healthcare setting.

Objectives:

- Recognize the meaning and use of legal terminology
- Apply legal expectations in healthcare
- Apply ethical standards in healthcare
- Demonstrate the principles of HIPAA regulations by completing the certification

Psychology for Healthcare

1 Credit/30 Clock-Hours

In this course, you will get an overview of the basic principles of communication and the impact of ethnic cultures in healthcare.

Objectives:

- Demonstrate communication skills within a healthcare setting

- Demonstrate cultural competence
- Define basic terms and conditions in psychiatry

Medical Office Procedures I

2 Credits/60 Clock-Hours

This course is designed to teach foundational information for those entering the healthcare field and the basic skills needed to perform clerical functions efficiently in a medical office setting.

Objectives:

- Describe foundational information related to the medical field
- Explain the reasons professionalism and work ethics are important in the medical field
- Demonstrate written communication in a healthcare setting
- Apply proper telephone techniques in a healthcare setting
- Apply proper patient reception and appointment scheduling techniques in a healthcare setting
- Apply daily operations in a healthcare setting
- Demonstrate how to properly create and maintain paper medical records
- Demonstrate how to properly create and maintain electronic medical records
- Apply meaningful use strategies to meet quality improvement outcome initiatives
- Demonstrate the principles of OSHA regulations by completing the OSHA certifications
- Describe Medication uses, names, classifications, and risks
- Explain the role of government agencies and regulation of medications
- Interpret medical documentation related to prescribed medications
- Describe various elements used when delivering patient education

Medical Office Procedures II

2 Credits/60 Clock-Hours

This course is designed to instruct the medical assistant student in the basic skills necessary to perform bookkeeping and financial functions in a medical setting.

Objectives:

- Perform financial office procedures related to health care environment on paper and electronically
- Define medical office management

Medical Office Procedures III

2 Credits/60 Clock-Hours

This course is designed to instruct the medical office administration student in the basic skills necessary to perform proper insurance, coding and billing procedures.

Objectives:

- Utilize diagnostic coding systems
- Utilize procedural coding systems
- Define healthcare insurance types, utilization, and guidelines
- Utilize health insurance claims

First Aid/CPR

0 Credits/10 Clock-Hours

With the completion of this class, the student will understand the importance of knowing what to do in a timely manner during and shortly after a medical emergency. Students will learn basics to control bleeding, perform CPR, and monitor a patient until advanced help arrives.

Objectives:

- Demonstrate first aid techniques

- Demonstrate Healthcare Provider level CPR as defined by the American Heart Association

Customer Relations**1 Credits/40 Clock-Hours**

This course will provide training in professional customer relationship skills, including time management, customer interaction skills, managing difficult customers, and stress management.

Objectives:

- Navigate and use the school LMS.
- Demonstrate exceptional customer service skills.
- Explain workplace skills as a customer service representative.
- Describe the importance of ethics in customer relations.
- Demonstrate professionalism as a customer service representative.
- Evaluate a given customer service dilemma or problem and apply a solution.
- Apply customer service communication using voicemail
- Explain techniques for stress management

Job Seeking Skills**0 Credits/15 Clock-Hours**

This course will prepare you to succeed, as we explore a variety of tools and strategies, to make your transition to employment as smooth as possible. Proper preparation is often as important as the skills you have already acquired. The process of obtaining employment is often discouraging and grueling. The Job Seeking Skills course will cover many aspects of job searching, including; summarizing your skills, searching for job leads in unconventional ways, filling out applications, writing a resume and cover letter, interview etiquette, and lastly, a follow up letter.

Objectives:

- Identify and explain personal employment direction and qualifications
- Complete the job application process
- Search for employment in their area of study and explain how social media will impact a job search
- Successfully complete a 20-minute mock interview

Medical Office Externship**3 Credit/160 Clock-Hours**

This course allows the medical office administration student the opportunity to demonstrate their administrative skills in a health care setting. This non-paid externship takes place in a working medical office or clinic under the supervision of a licensed physician.

Objectives:

- Apply knowledge related to Medical Office Administration procedures, processes, and environment
- Perform Medical Office Administration procedures safely and accurately
- Demonstrate professional behaviors in the healthcare setting



Utah System of Higher Education
Nail Technician Instructor
FY2023 / 5 Credits (150 Clock-Hours)

Nail Technician Instructor			
Institutions: Tooele			
<i>Certificate of Program Completion (Catalog Year: 2023, 5 Credits/150 Clock-Hours Required, CIP: 12.0413)</i>			
Core (5 Credits/150 Clock-Hours)		Credits	Clock-Hours
NTEI 2200	Nail Technician Instructor I	1	30
NTEI 2205	Nail Technician Instructor II	1	30
NTEI 2210	Nail Technician Instructor III	1	30
NTEI 2215	Nail Technician Instructor IV	1	30
NTEI 2220	Nail Technician Instructor V	1	30



Utah System of Higher Education

Nail Technician Instructor

FY2023 / 5 Credits (150 Clock-Hours)

PROGRAM DESCRIPTION

This program prepares a student to take the written test of the Utah Department of Professional Licensing exam to become a Nail Technician instructor. The program trains the student in a variety of settings using theory, classroom and records management, teaching methods and organization to take the DOPL instructor test under the direction of the Tooele Technical College Nail Technician Instructor.

Objectives:

- Proficient in basic teaching skills for career education instructors.
- Prove competency in effective communication with students, clients, and other instructors.
- Apply the techniques and guidelines for being an Instructor.
- Apply concepts for Professional Development as a Career Education Instructor.

COURSE DESCRIPTIONS

Nail Technician Instructor I

1 Credits/30 Clock-Hours

Course Description

In this course the Nail Technician Instructor students will be introduced to the art of teaching. They will learn about being a professional educator, job duties, classroom management and administrative duties. Students will be taught about lesson planning. They will be exposed to learning styles and will be given techniques for effective teaching and learning methods.

Objectives:

- Describe the role of a professional teacher including basic job duties, time management, professional ethics and best practices.
- Design a lesson plan including a list of teaching materials.
- Describe techniques for effective classroom management.
- Describe the administrative duties of a professional teacher.
- Define desired learning goals for students.
- Outline strategies for learning basic math and reading skills.
- Create a lesson plan teaching test taking skills and basic study skills.
- Identify multiple intelligences and learning styles.
- List and describe the four steps in learning.
- Identify effective teaching and learning methods.

Nail Technician Instructor II

1 Credits/30 Clock-Hours

This course is all about communication and providing information to students. Nail Technician Instructor students will learn techniques for effective communication and listening. Students will learn about presentation techniques, creating a positive classroom environment and will study learner behavior. Students will be exposed to some of the most common learning disabilities and how to accommodate these barriers. Student will also discuss other barriers to learning. Finally, students will review strategies for teaching to the fast-paced learner.

Objectives:

- Describe effective communication techniques and identify barriers to effective communication.
- Define and describe effective listening techniques and their role in effective communication.
- Identify various communication styles.
- Accurately describe the C-R-E-A-T-E model.
- Describe what makes an effective presentation.
- Describe a positive classroom environment.
- Identify principles for managing learner behavior, including difficult learner behavior.
- Identify special learning needs.
- List some of the most common learning disabilities
- Describe teaching techniques to accommodate some of the most common learning disabilities.



Utah System of Higher Education

Nail Technician Instructor

FY2023 / 5 Credits (150 Clock-Hours)

- Identify barriers to learning.
- Describe teaching techniques for the fast-paced learner.

Nail Technician Instructor III

1 Credits/30 Clock-Hours

In this course the Nail Technician Instructor student will go more in depth on curriculum development, lesson planning, grading methods, and available technologies for the classroom. Students will discuss strategies for effective academic advising and student motivation.

Objectives:

- Describe the steps and principles of curriculum development.
- Create a lesson plan for a variety of teaching scenarios.
- Describe different types of educational aids and technology for the classroom.
- Describe grading methods and grading components.
- Describe effective academic advising strategies.

Nail Technician Instructor IV

1 Credits/30 Clock-Hours

Nail Technician Instructor students will be learning about how to teach the business of salon work to students. This course covers how to teach salon philosophy, customer service, business management, marketing, building clientele, accounting requirements and salon profitability. Students will demonstrate the value of having a professional portfolio. Students will learn how to teach in a salon and how to manage multiple students including how to create a student orientation. Students will learn about student retention and will be able to identify the various roles of a professional educator.

Objectives:

- Describe salon philosophy, customer service, business management and salon profitability.
- List the steps to building a strong clientele list and techniques for marketing the salon.
- Describe salon accounting requirements.
- Create a professional portfolio with at least a couple of exhibits.
- Share techniques for salon teaching and managing multiple students.
- Describe student retention strategies and the importance of student retention.
- Design a new student orientation.
- Identify and describe various professional educator roles such as educator to learner, educator to educator, and educator to administration.

Nail Technician Instructor V

1 Credits/30 Clock-Hours

In this last course, Nail Technician Instructor students will review the importance of mental health and the value of laughter. Students will learn about teams and teamwork. Students will learn about goal setting and goal management. Students will learn about the process for evaluating professional performance and will review applicable industry law, rules and regulations. This course culminates with a exam review and a state practice exam.

Objectives:

- Describe the importance of maintaining a healthy mindset.
- Identify stress management techniques.
- Elaborate on the benefits of laughter in the workplace and the benefits to physical health.
- Describe what it means to have a strong work ethic.
- Describe models for goal setting the importance of goal management.
- Define term team and team work.
- Describe techniques for team building.
- Describe the process for evaluating professional performance.
- Review applicable industry law, rules and regulations.
- Complete a state licensing practice exam



Utah System of Higher Education
Cabinetry (Secondary)
FY2023 / 12 Credits (360 Clock-Hours)

Cabinetry (Secondary)			
Institutions: Uintah Basin			
<i>Certificate of Program Completion (Catalog Year: 2023, 12 Credits/360 Clock-Hours Required, CIP: 48.0703)</i>			
Core (12 Credits/360 Clock Hours)		Credits	Clock-Hours
CABM 1005	Woodworking	2	60
CABM 1015	Furniture Design 1	2	60
CABM 1025	Furniture Design 2	2	60
CABM 1035	Furniture Design 3	2	60
CABM 1045	Furniture Design 4	2	60
CABM 1055	Furniture Design 5	2	60



Utah System of Higher Education

Cabinetry (Secondary)

FY2023 / 12 Credits (360 Clock-Hours)

PROGRAM DESCRIPTION

The Cabinetry program is designed to teach the fundamentals of cabinet and furniture construction. While in the program, students will learn transferable, effective work skills that will be of value in most occupations, as well as in the cabinetry industry. Students will build a cabinet and or furniture project of their choice. Students will be instructed in the processes of woodworking from fundamentals of planning and design to finish work. The student will be instructed in the safe use of woodworking power tools and machines.

Objectives:

- Construction Safety
- Gain Knowledge on the Fundamentals of Cabinetry and Furniture Construction
- Introductory Project Management Skills
- Design and Construct a Project

COURSE DESCRIPTIONS

Woodworking

2 Credits/60 Clock-Hours

Learn basic math measuring concepts. Discover basic concepts in design, joinery, finishes, hardware, and complete cabinet construction. Safety will be stressed with every concept.

Objectives:

- Demonstrate Construction Math
- Design Planning and Estimating
- Demonstrate Knowledge of Abrasives and Finishes
- Demonstrate Cabinet Construction
- Demonstrate Safety
- Demonstrate Knowledge of Joinery, Fasteners and Adhesives
- Demonstrate Cabinet Hardware Installation

Furniture Design I

2 Credits/60 Clock-Hours

Safely design, plan, and estimate a complete cabinet project of choice. Study and work through completing the project using the processes of joinery, abrasives and finishes, hardware installation, cabinet construction, and moldings and millwork.

Objectives:

- Demonstrate Construction Math
- Demonstrate Design Planning and Estimating
- Demonstrate Abrasives and Finishes
- Demonstrate Cabinet Construction
- Demonstrate Safety
- Demonstrate Knowledge of Joinery, Fasteners and Adhesives
- Demonstrate Cabinet Hardware Installation
- Demonstrate Moldings and Millworks

Furniture Design II

2 Credits/60 Clock-Hours

Safely design, plan, and estimate a complete cabinet or furniture project of choice. Develop level II skills in cabinet making through continued use of the process joinery, abrasives and finishes, hardware installation, cabinet construction, and moldings and millwork.



Utah System of Higher Education

Cabinetry (Secondary)

FY2023 / 12 Credits (360 Clock-Hours)

Objectives:

- Demonstrate Construction Math – Level II
- Design Planning and Estimating – Level II
- Demonstrate Knowledge of Abrasives and Finishes – Level II
- Demonstrate Cabinet Construction – Level II
- Demonstrate Safety- Level II
- Demonstrate Knowledge of Joinery, Fasteners and Adhesives – Level II
- Demonstrate Cabinet Hardware Installation – Level II
- Demonstrate Moldings and Millworks – Level II

Furniture Design III

2 Credits/60 Clock-Hours

Safely design, plan, and estimate a complete cabinet or furniture project of choice. Develop level III skills in cabinet making through continued use of the process joinery, abrasives and finishes, hardware installation, cabinet construction, and moldings and millwork.

Objectives:

- Demonstrate Construction Math – Level III
- Design Planning and Estimating – Level III
- Demonstrate Knowledge of Abrasives and Finishes – Level III
- Demonstrate Cabinet Construction – Level III
- Demonstrate Safety- Level III
- Demonstrate Knowledge of Joinery, Fasteners and Adhesives – Level III
- Demonstrate Cabinet Hardware Installation – Level III
- Demonstrate Moldings and Millworks – Level III

Furniture Design IV

2 Credits/60 Clock-Hours

Safely design, plan, and estimate a complete cabinet or furniture project of choice. Develop level IV skills in cabinet making through continued use of the process joinery, abrasives and finishes, hardware installation, cabinet construction, and moldings and millwork.

Objectives:

- Demonstrate Construction Math – Level IV
- Design Planning and Estimating – Level IV
- Demonstrate Knowledge of Abrasives and Finishes – Level IV
- Demonstrate Cabinet Construction – Level IV
- Demonstrate Safety- Level IV
- Demonstrate Knowledge of Joinery, Fasteners and Adhesives – Level IV
- Demonstrate Cabinet Hardware Installation – Level IV
- Demonstrate Moldings and Millworks – Level IV

Furniture Design V

2 Credits/60 Clock-Hours

Safely design, plan, and estimate a complete cabinet or furniture project of choice. Develop advance level V skills in cabinet making through continued use of the process joinery, abrasives and finishes, hardware installation, cabinet construction, and moldings and millwork.

Objectives:

- Demonstrate Construction Math – Level V
- Design Planning and Estimating – Level V
- Demonstrate Knowledge of Abrasives and Finishes – Level V



Utah System of Higher Education

Cabinetry (Secondary)

FY2023 / 12 Credits (360 Clock-Hours)

- Demonstrate Cabinet Construction – Level V
- Demonstrate Safety- Level V
- Demonstrate Knowledge of Joinery, Fasteners and Adhesives – Level V
- Demonstrate Cabinet Hardware Installation – Level V
- Demonstrate Moldings and Millworks – Level V



UTAH SYSTEM OF
HIGHER EDUCATION

MEMORANDUM

September 16, 2022

USHE Protocols for Senate Bill 127 (2022) Early Literacy Outcomes Improvement

Overview

In its 2022 session, the Utah State Legislature passed Senate Bill 127, which is designed to enhance and align strategies to improve literacy outcomes for children in the early childhood education years (Kindergarten through third grade). The law requires action by both the Utah State Board of Education (USBE) and the Utah System of Higher Education (USHE) through the Office of the Commissioner of Higher Education (OCHE).

The law provides some fiscal support for colleges or schools of education at the six USHE universities to hire a reading specialist faculty member to provide science of reading instruction to future teachers. Legislative appropriations of \$90,000 to each institution will fund 75% of the new faculty position at the six universities; the universities will provide 25% matching funds from their budgets.

General Qualifications for Reading Specialist Faculty Positions

Commissioner's office staff have met with USBE officials and with the Utah Council of Education Deans (UCED) from the six public universities to determine the following general qualifications for the reading positions in each of these Elementary Education programs:

Candidates must:

1. have strong knowledge in the research and practice of the science of reading (SOR) and science of reading instruction (SORI);
2. be able to demonstrate competence in the use of assessment in SOR and SORI;
3. have education experience with struggling readers in K12 classrooms, clinics, or similar settings;
4. have a terminal degree in teacher education or related field.

Individual institutions may add additional criteria in their job search announcement, but the focus of the faculty position must be on SOR or SORI.

Process for Distribution of Legislative Funds

Funding for these positions will be available after July 1, 2022. The legislative monies will be transferred to the institutions through the Commissioner's office.

On or before September 16, 2022, each of the six eligible colleges/schools of education will submit a memo to UCED and OCHE that includes the following:

1. a dean's statement of verification of matching funds for the faculty hire;
2. a copy of their program's SOR/SORI job announcement;
3. a brief statement of how the new faculty position is being used to enhance and align reading education in the early elementary teacher education programs;
4. a projected timeline of the hiring process.

Collaboration with USBE to Meet Legislative Requirements

USBE is working on establishing goals and strategies for supporting literacy coaching and reading skills development in early school years. It is organizing a panel on the science of reading and establishing criteria to oversee assessment procedures, evaluation, and tutoring of students, especially the bottom 25% performing schools in the state. This cross-agency panel will help universities as they hire faculty members and will meet on an ongoing basis to insure the goals and intentions of the legislation are being met.

Recommendation

The Commissioner recommends that the Board approve this item.



UTAH SYSTEM OF
HIGHER EDUCATION

MEMORANDUM

September 16, 2022

USHE Protocols for Senate Bill 196 (2015) Mathematics Competency Initiative

Overview

SB 196 *Mathematics Competency Initiative* was passed during the 2015 Utah legislative session to help the Utah System of Higher Education (USHE) increase the number of students who complete a higher education Quantitative Literacy (QL) General Education requirement. It is designed to help qualified, academically advanced secondary students meet the college requirement through the concurrent enrollment program prior to graduating from high school. Funding for the initiative was provided by SB 196 (2015), with metrics assigned via HB 1 (2017).

The objectives of the initiative included:

- Some funding to allow the Commissioner's office to oversee the CE program, including the creation of a CE Common Participation Form (tools were developed and in place by July 1, 2017, but need regular maintenance and upkeep);

Academic efforts including:

- Increasing the number of mathematics and statistics teachers qualified to become higher education adjunct faculty and college-level Quantitative Literacy instructors;
- Increasing the number of students earning the Quantitative Literacy credits prior to enrolling in college by 5% from 2015 levels.

SB196 allowed for the Commissioner's office to send pass-through funds to institutions to meet these academic objectives. The first several years of pass-through funds were used primarily to help meet capacity demands for Quantitative Literacy General Education courses offered via concurrent enrollment.

Examples included:

1. Using USHE graduate programs to increase the pool of high school faculty who can meet minimal concurrent enrollment adjunct qualifications to teach mathematics and statistics (at least 18 graduate credits in mathematics and a Level IV Endorsement). The funding provided tuition assistance for high school teachers to take graduate Mathematics courses and was also used to pay for higher education faculty and staff time.

2. Increasing the number of sections of college-level Quantitative Literacy courses offered at local high schools through buy-outs of teacher preparation periods and other strategies.
3. Pilot programs focused on using multiple measures for placing students into Quantitative Literacy courses, for example by allowing students into QL courses upon successful completion of Secondary Math I, II, and III, with a C or higher rather than relying only ACT scores.

Funds were distributed in two three-year rounds, from 2016-2019 and from 2019-2022.

Shift in focus for the third round of SB196 funding

Now that institutions of higher education are adequately positioned to meet the capacity needs of Quantitative Literacy concurrent enrollment offerings, the focus of the grant program is shifting toward student course success, in conjunction with the Board's strategic plan emphasis on addressing completion gaps for underrepresented groups of students and the introductory course success tactic. USHE degree-granting institutions were asked to propose projects that will help them identify qualified students (defined as students who have completed Secondary Mathematics I, II, and III with a C or better course grade or other measures of preparation) who have not self-selected to enroll in a CE Quantitative Literacy course, recruit them to participate, and provide academic supports to help them succeed. Institutions were encouraged to specify how recruitment approaches and instructional supports would target underserved populations, as defined by race, ethnicity, and income status, to address participation and completion gaps in math.

Institutions proposed a variety of approaches for addressing the success gap in Quantitative Literacy CE courses, including:

- Using school data and faculty and staff recommendations to identify qualified students who have completed Secondary Mathematics I, II, and III with a C or better course grade and developing outreach plans to encourage them to enroll in a CE QL math course, as well as developing outreach plans for parents of students identified for QL recruitment.
- Tracking student progress through QL courses and creating support plans to ensure course success.
- Identifying additional academic supports required to ensure students' success in CE, for example, by scheduling in-school homework hours for QL students, providing tutors, teacher mentoring, campus field trips, etc.

Process for Distribution of Legislative Funds

The source of funding for this award is the SB 196 Mathematics Competency state appropriation, and \$488,594 in pass-through funding was awarded. The seven degree-granting institutions that applied for and received funding were Utah State University, Weber State University, the University of Utah, Utah Valley University, Snow College, Southern Utah University, and Utah Tech University. The award cycle

began August 1, 2022, and ends May 30, 2025, with a project accountability report due June 15, 2023, 2024, and 2025.

Recommendation

This is an information item only; no action is required.



UTAH SYSTEM OF
HIGHER EDUCATION

MEMORANDUM

September 16, 2022

Technical Education and Board Policy Alignment

Background

Because the Utah System of Technical Colleges joined the Utah System of Higher Education (“USHE”) in July 2020, the Office of the Commissioner has recently been working to review all technical college policies against existing Board policies to recommend consolidation and/or rescission of policies where necessary to ensure alignment between technical colleges and degree-granting institutions. This project furthers the Board’s Strategic Plan priority of System Unification.

It is recommended that the Board rescind the following policies as the concepts covered by them are already addressed in existing Board policy:

- Technical College Policy 209 – Institutional Civil Liberties Policy Review (covered by Board Policy R263 – Institutional Policy Review); and
- Technical College Policy 220 – Campus Safety (covered by Board Policy R262 – Student Safety).

It is also recommended that the Board rescind the following policy as it does not comport with current Title IX regulations:

- Technical College Policy 210 – Cross College Title IX Investigation/Adjudication.

In its September meeting, the Executive Committee considered these rescissions and voted to recommend them to the Board for consideration on the Board’s September consent calendar.

Commissioner’s Recommendation

The Commissioner recommends rescinding the above policies to ensure policy alignment between technical colleges and degree-granting institutions.

1 September 2022

TO: The Utah Board of Higher Education

FR: President Astrid S. Tuminez

RE: Leave of Absence Proposal

This is a proposal for a 10-week Leave of Absence (LOA) as provided for in Policy R210 in the Utah System of Higher Education Board Policies.

I would like to propose an LOA from Utah Valley University for a period of ten weeks some time between commencement in May 2023-July 2023.

The purpose of the LoA will be for professional development and personal renewal.

PROFESSIONAL DEVELOPMENT

For the past few years, I have been drafting a memoir on and off, but have never had time to focus and complete the draft. As you know, education has completely changed my life—taking me from the slums of Iloilo City (where my father raised seven children on less than \$50 a month) to BYU, Harvard, MIT and a global career, including the presidency of one of the largest and most dynamic universities in the US (UVU). I will use my leave to complete my manuscript, with the hope that a published book can inspire others to invest and persevere in their education.

PERSONAL RENEWAL

I plan to spend two weeks in the villages of my parents in the Philippines to do some research with relatives and older folks who will likely not be around much longer. This visit back to my roots will be personally energizing and inspiring.

SUPPORT FROM THE SYSTEM

I plan to do most of my writing as a visiting scholar at the Lee Kuan Yew School of Public Policy in Singapore. Singapore would be a fantastic base for peace, quiet, and reflection. It will also make it easy for me to make my trip to the Philippines.

Two other potential benefits could come from being in Singapore: 1) I will meet with former executive education colleagues at the National University of Singapore to see if we might collaborate on an executive leadership program that would bring Asian leaders to Silicon Slopes and introduce them to the entrepreneurial culture of Utah, and 2) I would like to bring a Utah legislative delegation to Singapore and will facilitate meetings for them on innovation and good governance (I have explored this with a few legislators).

I would like to ask USHE for support of my flights to and from Singapore, and an amount to defray the cost of accommodation. I will see if the National University of Singapore would be willing to let me stay in faculty accommodation.

Thank you very much for considering this proposal!