

SECTION 2.00 – CURRICULUM
CURRICULUM & GRADUATION STANDARDS POLICY
CHAPTER 4
POLICY 2.10

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I. POLICY

Curricula and graduation standards at Salt Lake Community College shall be developed and implemented with significant and meaningful involvement of SLCC faculty, whose role is central, both as individuals and through their departments and representative bodies. All courses and programs developed and implemented by Salt Lake Community College shall be designed and enforced in accordance with prescribed procedures. These procedures are based upon policies and standards of the Utah State Board of Regents and the Northwest Commission on Colleges and Universities.

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I. REFERENCES

- A. Utah State Board of Regents Policy and Procedures, Policy R401, “Approval of New Programs, Program Changes, Discontinued Programs, and Program Reports.”
- B. Utah State Board of Regents Policy and Procedures, Policy R470, “General Education, Common Course Numbering, Lower-Division Pre-Major Requirements, Transfer of Credits, and Credit by Examination.”
- C. Utah State Board of Regents Policy and Procedures, Policy R473, “Standards for Granting Academic Credit for CTE Course Work Completed in Non-Credit Instructional Formats.”
- D. Northwest Commission on Colleges and Universities, Standards for Accreditation (Revised 2010), Standard 2.C, “Education Resources.”
- E. Northwest Commission on Colleges and Universities, “Policy on Credit Hour.”
- F. Code of Federal Regulations (CFR), Title 34: Education, §600.2, “Definitions.”
- G. Code of Federal Regulations (CFR), Title 34: Education, §668.8 (k) and (l), “Eligible program.”

II. DEFINITIONS

- A. Program: A coherent series of courses leading to a certificate or degree with defined learning outcomes and requirements for completion.
- B. Degrees and Certificates:
 - 1. Associate of Arts (AA) / Associate of Science (AS) Degree – Program of study approved by the Board of Regents that is primarily intended to encourage exploration of academic options and prepare students for upper-division work in baccalaureate programs and/or for employment. A minimum of 61 total credits, including a minimum of 34 credits of general education course work and 27 credits of additional course work, are required for completion of this degree. Individual programs may specify in their general catalog entries

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whether general education credits beyond the 34-credit minimum can be counted toward the 61 credits of coursework necessary to earn the associate's degree; where not specified, excess general education credits can be counted. The Associate of Arts degree requires successful completion of any language course at the 1020 level or higher as part of the 27 credits beyond general education. Associate's degrees are no more than 63 credits in length unless an exception has been granted by the Board of Regents. Pre-majors are defined in a variety of areas as outlined in the annual general catalog.

2. Specialized Associate Degree – Program of study approved by the Board of Regents that includes extensive specialized course work, such as the Associate of Pre-Engineering (APE), and is intended to prepare students to initiate upper-division work in a baccalaureate program. A Specialized Associate Degree contains a minimum of 68 and a maximum of 85 credit hours, which include a minimum of 28 credit hours of preparatory, specialized course work and general education requirements that may be less extensive than in typical AA or AS degrees. Because students might not fully complete SLCC's general education requirements while completing a specialized associate's degree, they are expected to satisfy remaining general education requirements in addition to upper-division baccalaureate requirements at the receiving institution. Generally, specialized associate's programs are articulated from two- to four-year majors. In some cases, articulation may be system-wide.
3. Associate of Applied Science (AAS) Degree – Program of study approved by the Board of Regents that is primarily intended to prepare students for direct entry into careers. A minimum of 63 and a maximum of 69 credit hours are required. Additionally, a minimum of 14 credits of general education including instruction in the areas of communication, composition, quantitative studies, and human relations are required. Based on compelling reasons, exceptions to the maximum credit hour requirement may be granted by the Regents.
4. Certificate of Completion (CC) – Program of study approved by the Board of Regents that is typically one year in length (30-33 semester credit hours or 900-990 clock hours). Certificates of Completion may be entry-level or may require prerequisites of related industry experience and/or previous course work or degree attainment.

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Certificates of Completion include clearly identifiable instructional components in communication, computation, and human relations. These components can either be standalone general education courses or embedded within other program courses. Based on compelling reasons, exceptions to the maximum credit hour requirement may be granted by the Regents.

5. Certificate of Proficiency (CP) – A program of study approved by the Board of Regents that is less than one year in length (16-29 semester credit hours or 600-899 clock hours). Certificates of Proficiency may be entry-level or may require prerequisites of related industry experience and/or previous course work or degree attainment. Certificates of Proficiency may not be eligible for federal financial aid.
 6. Certificate of Achievement (CA) – A program of study not requiring approval by the Board of Regents that results in a certificate issued by an individual department/division/school and not under the authority of the Board of Regents. These are typically designed to meet immediate workforce training or community education needs. Certificates of Achievement are not recorded on an SLCC transcript, do not become part of a student’s permanent academic record, and are not eligible for federal financial aid. A Certificate of Achievement has no minimum or maximum length requirements or minimum general education requirements.
- C. Major: The term “major” refers to the discipline in which a program resides. For an Associate of Applied Science degree, the major may include one or more “emphases” to describe sub-units of the degree.
- D. Pre-Major: A collection of lower-division courses beyond general education requirements that prepares students for upper-division courses in a baccalaureate major. Courses contained in a pre-major in an AA or AS degree should be the same or similar to courses offered at four-year institutions as determined by the Faculty Discipline Majors committees. When a pre-major is designed for transfer to a four-year program, it must follow statewide articulation agreements where such agreements have been formulated subject to (R470) or, if this is a specialized program, have a formal, written, articulation agreement for the courses transferring.
- E. Emphasis: A collection of courses within an Associate of Applied Science degree that gives the student a specific focus in a particular sub-area related to

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the identifiable core of courses required for the degree. Both the name of the AAS degree and name of the emphasis within that degree are noted on the SLCC transcript and diploma.

- F. Catalog Year: A “catalog year” refers to the course and program requirements, admissions standards, and academic policies in effect during a single academic year. This has reference to printed college catalogs that were published once each year and did not change for the duration of that academic year. The requirements published annually in the electronic college catalog likewise do not change and remain in force for the duration of a given academic year.
- G. Academic Year: The period of time beginning with the start of Summer Semester and concluding at the end of the following Spring Semester.
- H. Credit Hour: Except as provided in 34 CFR 668.8(k) and (l), a credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is equivalent to not less than 45 hours of student work as follows:
1. One hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work each week for fifteen weeks or the equivalent amount of work over a different amount of time;
 2. Three hours of student work each week for fifteen weeks or the equivalent amount of work over a different amount of time in other activities including laboratory work, internships, practica, studio work, etc.; or
 3. Some combination of the above culminating in 45 hours of student work per semester.
 4. An equivalent amount of work represented by achievement of comparable learning outcomes in an online, hybrid, competency-based, or other format.
- I. Clock Hour: A period of time consisting of –
1. A 50- to 60-minute class, lecture, or recitation in a 60-minute period;

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2. A 50- to 60-minute faculty-supervised laboratory, shop training, or internship in a 60-minute period; or
 3. Sixty minutes of preparation in a correspondence course.
 4. An equivalent amount of work represented by achievement of comparable learning outcomes in an online, hybrid, competency-based, or other format.
- J. Full-Time Equivalent (FTE): A full-time equivalent is equal to the following unless otherwise specified by an individual agency (such as federal financial aid reporting requirements) –
1. 15 credit hours per semester / 30 credit hours per year, or
 2. 450 clock hours per semester / 900 clock hours per year.
- K. Ungraded Course Credit: Credit that carries no grade and has no impact on student GPA. Ungraded course credit can, however, fulfill program requirements, the total credit requirement for academic degrees, and prerequisites in which a grade is not specified if allowed by an individual program.
- L. Graded Course Credit: Credit that carries a grade and has an impact on student GPA. Graded course credit also fulfills program requirements, the total credit requirement for academic degrees, and (if the grade meets a prescribed level) prerequisites in which a grade is specified.
- M. Repeatable Course: A course that may be retaken multiple times for additional credit. Each instance counts toward a student's total credits and GPA. Examples include fitness classes, music ensembles, special topics classes, etc. Current federal financial aid regulations specify how many times a course can be repeated using financial aid dollars.
- N. Non-Repeatable Course: A course that can only be repeated for grade replacement. Only one instance counts toward a student's total credits and GPA. Most academic courses are non-repeatable. Current federal financial aid regulations specify how many times a course can be repeated using financial aid dollars.

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- O. Prerequisite: A course that must be successfully completed or a test score that must be earned to qualify for placement into an ensuing course. In some cases, certain prerequisite courses may be taken concurrently with the ensuing course.
- P. Corequisite: A course that must be taken concurrently with another course. In some cases, two specific sections are corequisites; in other cases, students may enroll simultaneously in an section of the corequisite courses.
- Q. Exception: An exception refers to any adjustment made to a program's requirements for an individual student. Exceptions can take the form of a substitution (a single course taken by a student takes the place of a single course required for program completion), a waiver (one or more program requirements are waived for an individual student), or another type of exception (such as multiple courses meeting the program requirement normally fulfilled by a single course). In some cases, exceptions are made to satisfy reasonable accommodation requirements of the Americans with Disabilities Act (ADA).

III. PROCEDURES

- A. Program , Course, and Credit Hour Requirements: Academic programs and courses are designed and delivered by appropriately qualified teaching faculty in consultation with other faculty, academic administrators, staff, business and industry partners, professional associations, and other relevant stakeholders. Where programs are designed to prepare student for transfer to another academic institution, program requirements are designed in consultation with the transfer partner and appropriate articulation agreements are created and enforced. Program length, credit hour assignments, and other requirements conform to the policies of the Utah State Board of Regents and the Northwest Commission on Colleges and Universities. The School, College, and General Education Curriculum Committees ensure that faculty and academic departments have made accurate credit hour assignments as specified in the definitions above during the development, approval, and periodic review of programs and courses. The SLCC Curriculum Handbook and General Education Handbook contain current procedures for developing, approving, and periodically reviewing programs and courses.
- B. Catalog Year: The following standards determine a student's catalog year for graduation purposes.

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1. A student's catalog year is assigned at the time of admission (he/she uses the catalog in effect during the term for which he/she is admitted).
 2. If a student must re-apply for admission due to a lapse in enrollment of 2 or more years, he/she will be assigned to the catalog in effect at the time of readmission.
 3. A student's catalog year is updated when a student declares a new program of study (he/she uses the catalog in effect at the time the new program of study is declared).
 4. A student can elect to either use his/her assigned catalog year or any subsequent catalog up to the current catalog (subject to the limits outlined in B.2 and B.6 of this section) at the time he/she applies for graduation.
 5. A student may not use a catalog year prior to his/her assigned catalog year.
 6. Expiration: No student can graduate under the requirements of a catalog more than 6 years old.
 7. Students must graduate under the requirements of a single catalog.
 8. Exceptions may be granted on an individual basis. Procedures for requesting an exception can be found on the Graduation Office website.
- C. Graduation Standards: A student may graduate from SLCC by completing all of the requirements for a degree or certificate as outlined in the applicable catalog year. The following standards also apply.
1. Student Eligibility: A student must be a current, matriculated (degree-seeking) student to apply for graduation.
 2. Program Eligibility: Students may only graduate in an approved program contained in their designated catalog year. Applications for graduation in a discontinued program will not be accepted.
 3. Graduation Residence: A minimum of 25% of the credit or clock hours necessary for graduation from SLCC must be earned at SLCC. This

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can include credit earned through SLCC concurrent enrollment. Credit awarded by SLCC for experiential learning or through challenge examinations, Advanced Placement (AP) examinations, the College Level Examination Program (CLEP), and International Baccalaureate (IB) examinations does not count as in-residence credit.

4. Cumulative GPA: A student must have earned a cumulative GPA of 2.0 or higher to graduate. When a student repeats a course, the parameters in section C(8) below will be followed. A student's cumulative GPA may be recalculated by the receiving institution when a student transfers to another institution. Grades earned in courses numbered 0001-0999 will not be included in the cumulative GPA for graduation purposes.
5. Incomplete Grades: Incomplete courses (grade of "I") necessary for graduation must be completed and a grade posted for a student to be eligible for graduation.
6. Developmental Education Courses: Credits earned in courses numbered 0001-0999 do not satisfy graduation requirements.
7. Exceptions:
 - a. Exceptions to the requirements of a program are granted only upon documented approval by the administrator of the relevant academic unit (Department, Division, and/or School) in consultation with appropriately qualified teaching faculty and, where appropriate, program-specific academic advisors.
 - b. Exceptions for satisfying general education requirements or substituting a course from one discipline for a course in another discipline are granted only upon documented approval by the academic administrator assigned by the Provost to oversee the General Education and General Studies programs (in consultation with other relevant academic administrators where appropriate).
 - c. The Graduation Office is the only entity authorized to input approved exceptions in the student's academic record.

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- d. Exceptions may either be approved on a one-time or ongoing basis. A list of ongoing exceptions is maintained by the Graduation Office and, together with an annual report of all exceptions granted over the previous year, is reviewed and ratified annually by the relevant academic unit(s) and the General Education and College Curriculum committees where appropriate.
 - e. A student may not request an exception unless he/she has been admitted as a matriculated student. Exceptions will not be granted to students not seeking a degree or certificate from SLCC.
 - f. Procedures and timelines for requesting an exception are outlined on the SLCC Graduation Office website.
 - g. Students seeking exceptions under the reasonable accommodations requirement of the ADA should work through the Disability Resource Center.
8. Course Repeats: SLCC follows Board of Regents, federal financial aid, and Department of Veterans Affairs policies regarding course repeats.
- a. Non-Repeatable courses: Students may repeat a course to earn a higher grade. All grades remain on the academic record; however, only the highest grade received in the course will be used to calculate the student's cumulative GPA. Only one instance of the same course may be included in the total credit hours earned toward graduation. Federal financial aid and Department of Veterans Affairs guidelines restrict the number of times a course repeat can be funded by federal aid. Only direct repeats are counted; a grade earned in a higher course in a series does not replace a grade earned in a lower course (e.g., an "A" in MATH 1010 does not replace a "C" in MATH 0990).
 - b. Repeatable courses: Students may take a repeatable course multiple times. All grades remain on the academic record, and all will be used to calculate the student's cumulative GPA. All instances of the course are included in the total credit hours

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earned toward graduation subject to individual program requirements.

- c. Transfer courses: Courses accepted from other institutions under SLCC's transfer evaluation policies may be used for the purpose of posting a repeat of a course already taken at SLCC if the courses are articulated.

9. Transfer Credit:

- a. Acceptance of Transfer Credits: SLCC accepts credit transferred from other institutions within the Utah System of Higher Education (USHE) without expiration. In most cases, SLCC accepts credit transferred from other regionally accredited postsecondary institutions according to the same guidelines followed for USHE credit. Credits from non-regionally accredited institutions are generally not accepted unless approved by the administrator of the relevant academic unit (Department, Division, and/or School) in consultation with appropriately qualified teaching faculty.
- b. Applicability of Transfer Credits: In consultation with the appropriate academic unit(s), the Transfer Evaluation Office reviews courses taken over the prior 15 years and makes a determination of applicability to current requirements of a credential or degree based on the appropriateness of course content, rigor, and standards. Students may petition the Transfer Evaluation Office for an exception to the 15 year limit, and that office will consult with the appropriate academic unit(s) before making a decision. Transfer credits not applied to a student's current program may be counted as elective credits.

10. Expiration of Credit:

- a. SLCC Credit: Unless specified by individual academic units (Departments, Divisions, or Schools), credits successfully completed at SLCC either on campus or through concurrent enrollment or distance education do not expire. However, credit for prior versions of courses may not be equivalent to the current version of the same courses for completion of program requirements or satisfaction of current course prerequisites.

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Credits awarded by SLCC through challenge exams, proficiency measures, experiential learning, and other means likewise do not typically expire, though they may be reevaluated if a student changes his/her program of study or reapplies for admission after a lapse in enrollment of 2 or more years.

- b. **Transfer Credit:** Once accepted by SLCC, transfer credit does not expire and can be applied toward a program of study as specified in item C.9 above. If a student must reapply for admission due to a lapse in enrollment of more than 2 years or if a student changes his/her program of study, transfer credit may be reevaluated.
11. **Academic Renewal:** Students admitted to Salt Lake Community College may petition to have poor grades and credits discounted from the GPA calculation of previous coursework. Academic renewal may not be accepted by transfer institutions and may not satisfy federal financial aid satisfactory academic progress requirements. To petition for academic renewal, the student must have an interruption in their education at Salt Lake Community College of at least five consecutive years and meet the policy requirements 11(b)1 through 11(b)8 below. The Academic Renewal Policy allows a returning student the opportunity to improve academic standing at Salt Lake Community College.
 - a. Academic renewal permits returning students to discount previous poor grades and associated credits from grade point calculations under the following conditions:
 - (1) Returning students must have an interruption in their collegiate education at Salt Lake Community College of five or more consecutive years.
 - (2) The grades and associated credits to be discounted must be at least five years old.
 - (3) Academic renewal applies only to courses with grades of D+, D, D-, E or UW.
 - b. Conditions under which academic renewal will be considered:

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- (1) The applicant must be enrolled at Salt Lake Community College at the time of application for academic renewal and upon return to Salt Lake Community College, the applicant must have completed at least 6 credits of graded Salt Lake Community College coursework with a cumulative GPA of 2.0 or above.
 - (2) Academic renewal may be applied only once during a student's academic career at Salt Lake Community College and it is irreversible.
 - (3) Not all graded coursework described in a.3 must be discounted. Students may request specific courses for academic renewal.
 - (4) Repeated courses and credits are not eligible for academic renewal.
 - (5) Grades and credits approved for academic renewal will no longer count toward Salt Lake Community College program or graduation requirements.
 - (6) Courses approved for academic renewal and the course grades will remain on transcripts with an academic renewal notation.
 - (7) Students will not receive a tuition adjustment or refund for courses granted academic renewal status.
 - (8) Academic renewal applies only to courses and credits taken at Salt Lake Community College.
12. Posthumous Degrees: All Degrees, Certificates of Completion, and Diplomas awarded by Salt Lake Community College may be issued posthumously under the following conditions:
- a. The deceased student has completed a minimum of 80% of program and credit-hour requirements for his/her major field of study.

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- b. The deceased student is in good academic standing and has earned a minimum cumulative grade-point average of 2.0 at Salt Lake Community College.
 - c. The deceased student must have been enrolled at the college within the past two years.
 - d. A deceased student not eligible for a posthumous Degree, Certificate of Completion, or Diploma, may be awarded a Certificate of Academic Achievement at the discretion of the College.
- D. Admissions, Registration, and Financial Aid Policies: Policies and procedures regarding admissions, registration, and financial aid are maintained and published by Student Services in collaboration with the appropriate stakeholders.

SLCC Program Proposals

Board of Trustees February 12, 2014 • Board of Regents May 16, 2014

Tab H

| | |
|--|---------|
| School of Applied Technologies and Professional Development | |
| Discontinue: Certificate of Proficiency (CP) Phlebotomy Technician | 285 hrs |
| School of Arts, Communication and New Media | |
| Associate of Science (AS) pre-major in Graphic Communications | 63 cr |
| School of Business | |
| ¹ Associate of Applied Science (AAS) in Accounting (<i>revised</i>) | 68 cr |
| ¹ Certificate of Proficiency (CP) in Accounting Essentials | 16 cr |
| ¹ Certificate of Proficiency (CP) in Accounting Advanced | 16 cr |
| School of Health Sciences | |
| Associate of Applied Science (AAS) Health Informatics | 80 cr |
| School of Humanities and Social Science | |
| Certificate of Proficiency (CP) Cultural Resource Management | 24 cr |
| School of Science, Mathematics and Engineering | |
| ² Associate of Applied Science (AAS) in Geospatial Technology | 65 cr |
| ² Certificate of Proficiency (CP) in Geospatial Technology | 21 cr |
| Certificate of Proficiency (CP) in Microscopy | 20 cr |
| Certificate of Proficiency (CP) in Nanotechnology | 26 cr |
| School of Technical Specialties | |
| Assoc. of Applied Science (AAS) in Collision, Maintenance, & Light Repair | 65 cr |
| Certificate of Completion (CC) in Non-Destructive Testing – Eddy Current | 32 cr |
| Certificate of Completion (CC) in Non-Destructive Testing – Radiography | 35 cr |
| Certificate of Completion (CC) in Non-Destructive Testing – Ultrasonics | 32 cr |

¹The Accounting proposals are combined on one document

²The Geospatial proposals are combined on one document.

SLCC Program Proposals

Board of Trustees February 12, 2014 • Board of Regents May 16, 2014

School of Applied Technologies and Professional Development Certificate of Proficiency – Phlebotomy Technician

Section I: Request

Salt Lake Community College requests approval to discontinue its non-credit, competency-based Phlebotomy Technician program effective July 1, 2014.

Section II: Need

The Program Advisory Committee for this program has advised the College to discontinue the program based on low enrollment and low placement into the vocation following completion. The courses that comprise this program will still be offered as part of the Clinical Medical Assisting program for students who do not receive phlebotomy training through their employers or other entities.

Section III: Institutional Impact

Because the courses required for this certificate will still be taught as part of the Clinical Medical Assisting program, there will be no net impact on personnel, finances, or facilities.

SLCC Program Proposals

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School of Arts, Communication and New Media Associate of Science Pre-Major – Graphic Communications

Program Description

The Graphic Communications AS pre-major builds upon the existing Graphic Communications Technologies CC currently being offered by the Visual Art & Design Department at Salt Lake Community College. It was developed for three reasons: to meet student demand for a transferable graphic arts degree which will in turn establish a clearer pathway toward the completion of a 4-year college degree, to allow for successful accreditation of SLCC's Graphic Communications specialization by the Accrediting Council for Collegiate Graphic Communications programs (ACCGC), and to develop articulation agreement between SLCC and top achieving higher education Graphic Communication programs in the United States.

Role and Mission Fit

This program aligns with SLCC's mission to provide quality higher education to a diverse population. Allowing the Graphic Communications specialization to expand to include an Associates of Science degree will allow it to better serve its students and become a more highly qualified program through ACCGC accreditation.

Faculty

| | | | |
|---|-----------|-----------|------------|
| Number of faculty with Doctoral degrees | Tenure: | Contract: | Adjunct: |
| Number of faculty with Master's degrees | Tenure: 1 | Contract: | Adjunct: |
| Number of faculty with Bachelor's degrees | Tenure: | Contract: | Adjunct: 2 |
| Other Faculty | Tenure: | Contract: | Adjunct: |

Market Demand

According to many sources, graphic arts is a field that continues to be in demand. Yahoo! Education named Graphic Design as the 5th most in demand degree to start in 2013. Graphic Communications is consistently one of the top grossing industries in the United States with the Graphic Arts Technical Foundation (GATF) publishing its annual PGSF Career Guide with the following statistics:

- 36,870 printing establishment are currently in operation in the United States
- Printing employees more than 1,000,000 people (Printing and related occupations employ the third largest number of people in the United States.)
- Annual shipping exceed \$170 billion
- 46% of marketing budgets are spend on print media (only 5% is on the Internet)
- Job growth in 2014 is expected to be:
 - 5.6% production jobs
 - 9.6% supervisors and managers
 - 8.1% job printers
 - 14.2% bindery workers

http://education.yahoo.net/articles/in_demand_degrees_in_2013.htm

http://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=4&cad=rja&ved=0CFIQFjAD&url=http%3A%2F%2Fwww.thegcef.org%2Fwp-content%2Fuploads%2F2010%2F07%2FPGSFCareerGuide.pdf&ei=RCLsUsHRBYrmoATvtYCIDA&usg=AQjCNGyFuE_Bk9mCBnJZTx0_wbpXhiyQ&sig2=9oIIe01pMXnUUXO7r-0jfg&bvm=bv.60444564,d.cGU

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Student Demand

Student demand for this program is high. We currently offer six different Graphic Communications courses: InDesign, Advanced InDesign, Printing Fundamentals, Math for Visual Arts, eDesign & Publishing, and Screen Printing. We see more than 250 students take our foundation InDesign course each year. Many students cannot continue in a Graphic Communications degree as they would want to because SLCC does not offer a 2-year Graphic Communications degree.

Similar Programs Already Offered in the USHE

Salt Lake Community College currently offers the only Graphic Communications certificate in the state of Utah. Expanding to include a 2-year AS degree will make it the only Graphic Communications degree in Utah as well. However, many colleges offer graphic arts degrees, which are similar. Utah State University and the University of Utah both offer Art degrees, which can be pursued as an emphasis of Graphic Design and/or Printmaking. This Graphic Communications AS degree would assimilate well with those. The School of Arts & Media is committed to developing articulation agreements with 4-year institutions. Becoming ACCGC accredited will make it possible to articulate with all other ACCGC accredited programs.

Curriculum

| Course Prefix and Number | Title | Credit Hours |
|-------------------------------------|---|--------------|
| General Education | (transfer general education requirements) | 34 |
| Sub-Total | | 34 |
| Required Courses | | |
| ART 1120 | Design | 3 |
| ART 1135 | Printing Fundamentals | 3 |
| ART 1200 | InDesign Software | 3 |
| ART 1230 | Type & Layout | 3 |
| ART 1240 | Screen Printing | 3 |
| ART 1280 | Photoshop Software/Design | 3 |
| ART 2120 | eDesign & Publishing | 3 |
| ART 2200 | Adv InDesign Software | 2 |
| ART 2412 | Illustrator Software | 3 |
| Sub-Total | | 26 |
| Elective Courses (choose 3 credits) | | |
| ART 1210 | Math for Visual Arts | 3 |
| ART 2000 | Visual Art CO-OP | 1-5 |
| ART 2010 | History of Visual Art & Design | 3 |
| ART 2080 | VAD Internship | 1-3 |
| ART 2140 | Adv Photoshop Software | 2 |
| ART 2220 | Advanced Design | 3 |
| ART 2230 | Advanced Type & Layout | 3 |
| ART 2420 | Adv Illustrator Software | 2 |
| ART 2440 | Web Site Design | 3 |
| Sub-Total | | 3 |
| Total Number of Credits | | 63 |

SLCC Program Proposals

Board of Trustees February 12, 2014 • Board of Regents May 16, 2014

School of Business Associate of Applied Science – Accounting Certificate of Proficiency – Accounting Essentials Certificate of Proficiency – Advanced Accounting

Program Description

Accounting is the process that summarizes economic information about a business entity for use by decision makers. Users of this information include investors, creditors, management and government agencies. Often this information is prepared using computer applications. The Accounting program at SLCC provides training in many types of accounting; such as financial, managerial, cost, individual taxation and governmental. Students are taught both manual and basic computerized accounting systems. General Education courses provide training in effective oral and written communication and human relations skills.

Students will earn a Certificate of Proficiency in Business Basics (18 credit hours required), a Certificate of Proficiency in Accounting Essentials (16 credit hours required), and a Certificate of Proficiency in Advanced Accounting (16 credit hours required) along with general education courses (18 credit hours required) to complete the Associate of Applied Science degree (68 credit hours required), leading to employment in areas such as accounts receivable, accounts payable, general ledger, and payroll.

Role and Mission Fit

Per Utah State Board of Regents Policy R312, sections 4 and 5, the Certificates of Proficiencies and the AAS degree in Accounting are consistent with Salt Lake Community College's role and mission as a comprehensive community college. In particular, this program adequately fulfills the Salt Lake Community College Mission Statement in R312-5.4.3 as a degree program designed to "serve the needs of community and government agencies, business, industry and other employers." Accordingly, the intent of these programs is to produce students who have the education, training and professional skills to meet the needs of Utah's current and future workforce demands in the field of accounting.

Faculty

Current accounting department faculty at Salt Lake Community College possess credentials to deliver the curriculum for an AAS degree in accounting.

Market Demand

National employment trends for this occupational category will remain relatively stable through 2020. Utah Department of Workforce Services (DWS) projects 2.5 % annual change for this occupational category. DWS rates Bookkeeping, Accounting and Auditing Clerks as a 3-star occupation, indicating moderate to strong employment outlook statewide (<http://jobs.utah.gov/jsp/wi/utalmis/oidoreport.do#>). The proposed CPs and AAS programs, along with future development of additional emphases as needed, will train students for these occupations. The program is designed to allow student to adapt to future technology innovation as it impacts business and industry. Therefore, SLCC's proposed CPs and AAS programs in Accounting represent a facile and stackable solution for employees who support accessible career advancement pathways for their incumbent workers and for students in related occupations who desire advanced education.

Student Demand

The accounting program has seen a 27% increase in FTE enrollments over the past five years. Although an improved economy might slow the growth in the future, all indications imply that growth will continue in this strong program.

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Statement of Financial Support

| | |
|---|-------------------------------------|
| Appropriated Fund..... | <input checked="" type="checkbox"/> |
| Special Legislative Appropriation..... | <input type="checkbox"/> |
| Grants and Contracts..... | <input type="checkbox"/> |
| Special Fees | <input type="checkbox"/> |
| Differential Tuition (must be approved by the Regents)..... | <input type="checkbox"/> |
| Other (please describe)..... | <input type="checkbox"/> |

Similar Programs Already Offered in the USHE

Utah Valley University – Associate of Applied Science in Accounting

Curriculum

Associate of Applied Science – Accounting

| Course Prefix and Number | Title | Credit Hours |
|--|--|--------------|
| General Education | | |
| ENGL 1010 | Intro to Writing (EN) | 3 |
| FIN 1380 | Financial Math (QS) | 3 |
| BUS 2200 | Busn Communication (CM) | 3 |
| MKTG 1960 | Professionalism Bus (HR) | 3 |
| Distribution Areas (choose 6 credits) | Biological Science (BS) | 6 |
| | Fine Arts (FA) | |
| | Humanities (HU) | |
| | Interdisciplinary (ID) – Recommended :FIN 1050 | |
| | Physical Science (PS) | |
| | Social Science (SS) – Recommended: ECON 2010 | |
| Sub-Total | | 18 |
| Required Courses | | |
| Business Basics Cert. of Proficiency | | 18 |
| Accounting Essentials Cert. of Proficiency | (see requirements below) | 16 |
| Advanced Accounting Cert. of Proficiency | (see requirements below) | 16 |
| Sub-Total | | 50 |
| Total Number of Credits | | 68 |

Certificate of Proficiency – Accounting Essentials

| Course Prefix and Number | Title | Credit Hours |
|--------------------------------|--------------------------------|--------------|
| General Education | | |
| ACCT 1120 | Financial Acct II | 3 |
| ACCT 1290 | Acct Info Systems | 3 |
| ACCT 2310 | Intermed Accounting I | 4 |
| ACCT 2520 | Federal Income Tax | 3 |
| CSIS 2010 | Bus Comp Prof – Spreadsheet/DB | 3 |
| Total Number of Credits | | 16 |

Certificate of Proficiency – Advanced

| Course Prefix and Number | Title | Credit Hours |
|--------------------------|--------------------------|--------------|
| Required Courses | | |
| ACCT 2410 | Intermed Accounting II | 4 |
| ACCT 2540 | Accounting in Practice | 3 |
| CSIS 2060 | Decision Support Systems | 3 |

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| Course Prefix and Number | Title | Credit Hours |
|-------------------------------------|--------------------------------|--------------|
| | Sub-Total | 10 |
| Elective Courses (select 6 credits) | | |
| ACCT 2000 | Accounting Co-Op | 1-3 |
| ACCT 2050 | Governmental Acct | 3 |
| ACCT 2530 | Cost Accounting | 3 |
| ACCT 2950 | Accounting Lecture Series | 1 |
| ACCT 2990 | Current Topic Accounting | 1-3 |
| | Sub-Total | 6 |
| | Total Number of Credits | 16 |

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School of Health Science Associate of Applied Science – Health Informatics

Program Description

Health informaticians work at the intersection of health care systems, computer science, biostatistics, and information technology. This program will concentrate on the introduction and application of electronic medical records, databases, medical research systems, clinical decision support services, healthcare delivery systems and health information systems management including assembling and utilizing the data found from patients' health information, medical histories, symptoms, examination results, diagnostic tests, treatment methods, and all other healthcare provider services and its application in healthcare and research to improve healthcare information, data maintenance relating to patient safety, patterns of disease, and disease treatment and outcomes. The program will train students in computer software data security, electronic health records (EHR) security, and healthcare data standards. The program will provide an introduction to medical business practices, healthcare quality measures and assessments, and medical laws and ethics. Health informatics positions include working for research institutions, healthcare organizations and medical software companies.

The program will seek accreditation through the Commission on Accreditation for Health Informatics and Information Management Education (CAHIIM).

Role and Mission Fit

The College prepares students for direct entry into the workforce with industry-recognized credentials and preparation programs. The proposed program will prepare students for employment in the healthcare industry both regionally and statewide to meet the increasing demand for trained personnel in health informatics and health data management. Salt Lake Valley has a large healthcare industry and the College's mission to serve the needs of the community will be fulfilled by meeting the demand for qualified trained personnel in this expanding field.

Additionally, the program will facilitate educational pathways from high school to a baccalaureate degree. Traditionally, the AAS degree was a terminal degree. The program development will meet the grant's objective of providing student entry-level careers that meet industry needs and immediate placement with the awarding of the Registered Health Information Technician (RHIT) certificate upon completion of the national exam. Graduating students also have a clear pathway to a bachelor's degree (see appended comments, Articulation with Western Governors University and pending agreement with Weber State University) to obtain the Registered Health Information Administrator (RHIA). Students can easily transfer from the HIT certificate program to the HIT AAS program without loss of academic credits thereby having a "stackable" credential and pathway.

The proposed program curriculum will be developed and the program initiated through a Department of Labor TAA (Trade Adjustment Assistance) grant awarded to Salt Lake Community College in 2012 and terminating in October 2014. The grant has paid for the programs technology requirements by purchasing needed computers and software.

Faculty

This program will include the following faculty:

| | | | |
|--|-----------------|-----------------|------------------|
| <i>Number of faculty with Doctoral degrees</i> | <i>Tenure</i> | <i>Contract</i> | <i>Adjunct</i> |
| <i>Number of faculty with Master's degrees</i> | <i>Tenure</i> | <i>Contract</i> | <i>Adjunct</i> |
| <i>Number of faculty with Bachelor's degrees</i> | <i>Tenure 1</i> | <i>Contract</i> | <i>Adjunct 2</i> |
| <i>Other Faculty</i> | <i>Tenure 1</i> | <i>Contract</i> | <i>Adjunct</i> |

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Due to accreditation standards, the program will require a program coordinator and a clinical coordinator with associated release time for administrative duties. The program coordinator assignment will be fulfilled by full-time faculty. Clinical coordination will be fulfilled by a full-time member with adequate credentials for accreditation standards.

Market Demand

The U.S. Bureau of Labor Statistics anticipate a 21% growth through the year 2020. The average median pay is \$15.51 per hour/\$32,350 per year for entry level certificate level. Health informaticians with an associates may expect an average mean hourly wage of \$17.68 per hour/\$36,770. The average starting salary for health informatics bachelor's degree is \$43,600 annually and an expected 78,000 job openings are expected over the next 10 years due to the new federal laws mandating health data interoperability. A survey conducted by the American Society of Health Informatic Managers believe that between now and 2015, 50,000 to 200,000 positions will be created nationally. The Utah Occupational Report for Medical Records and Health Information Technicians (*source: jobs.utah.gov*) reports that this occupation is expected to experience much faster than average employment growth with 100 annual openings in Utah statewide. Business expansion will provide the majority of job openings in the upcoming decade. Median hourly wage in the Salt Lake is \$13.84 with higher wages in northern Utah. Areas of expanding employment include health information technicians, medical software sales, medical software data management, database administrators, health information managers, coding compliance and auditors, and clinical documentation analysts.

Student Demand

This program will serve students in the Salt Lake Valley and statewide (online/hybrid courses) and will meet industry workforce demand arising from healthcare organizations complying with federal statutes for medical records and health information data interoperability and security. The program will focus on medical informatics and health information management and provide a broad entry-level education to facilitate job placement or transfer to a four-year institution to complete a bachelor's degree.

Statement of Financial Support (Sample)

- Appropriated Fund.....
- Special Legislative Appropriation.....
- Grants and Contracts.....
- Special Fees
- Differential Tuition (must be approved by the Regents).....
- Other (please describe).....

Similar Programs Already Offered in the USHE

Weber State University: Associate Degree – Health Information Management. This program focuses on medical coding and billing. The proposed Salt Lake Community College program will focus on health informatics and meeting the needs of students located in the Salt Lake Valley and throughout Utah via online/hybrid offerings.

All Program Courses

| Course Prefix & Number | Title | Credit Hours |
|--------------------------|---|--------------|
| General Education | | |
| ENGL 1010 | Intro to Writing | 3 |
| ENGL 2010/2100 | Intermediate Writing/ Technical Writing | 3 |

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| Course Prefix & Number | Title | Credit Hours |
|-------------------------|--|--------------|
| MATH 1010 | Intermediate Algebra (QS) | 4 |
| MATH 1030/1040/1050 | Quantitative Literacy | 3 |
| Any (AI) Course | American Institutions Elective (AI) | 3 |
| Any (LW) Course | Lifetime and Wellness Elective (LW) | 1 |
| Any (PS) Course | Physical Science Elective(PS) | 3 |
| Any (SS) Course | Social Science Elective(SS) | 3 |
| Any (ID) Course | Culture and Ethics in Medicine HS 2050 (ID, DV) | 3 |
| Any (FA) Course | Fine Arts Elective (FA) | 3 |
| Any (HU) Course | Humanities Elective (HU) | 3 |
| Student Choice | Elem. Effective Communication COMM 1010 (IN) | 3 |
| | Sub-total | 35 |
| Required Courses | | |
| CSIS 2010 | Business Computer Proficiency | 3 |
| CSIS 2050 | Advanced Database Application | 3 |
| CSIS 2060 | Decision Support Systems | 3 |
| BIOL 2320/2325 | Human Anatomy and Lab | 4 |
| BIOL 2340/2345 | Human Physiology and Lab | 4 |
| HIT 1100 | Medical Terminology for Health Information Technicians | 3 |
| HIT 1050 | Medical Business Practices | 3 |
| HIT 1040 | Pathophysiology for Health Information Technicians | 3 |
| HIT 1120 | Healthcare Quality Improvement | 2 |
| HIT 1080 | Clinical Classification Systems | 2 |
| HIT 2110/5 | Health Informatics/Lab | 3 |
| HIT 2120 | Pharmacotherapy | 3 |
| HIT 2260 | Healthcare Reimbursement | 3 |
| HIT 2240 | Healthcare Data Content and Structure | 3 |
| HIT 2280 | Advanced Clinical Classification Systems | 2 |
| HIT 2270 | Professional Practice Experience | 1 |
| | Sub-Total | 45 |
| | | |
| | Total Number of Credits | 80 |

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School of Humanities and Social Science Certificate of Proficiency – Cultural Resource Management

Section I: Request

Salt Lake Community College requests approval to offer a Certificate of Proficiency in Cultural Resource Management beginning Summer 2014. The 24 credit program consists of six courses and two hands-on learning experiences by way of internships in the community and/or lab work.

Section II: Need

Cultural resources are the collective evidence of the past human activities and accomplishments. Because they are finite and non-renewable resources and because they are critical pieces to forming an understanding of the past, state and federal laws have been passed to protect these cultural resources. Cultural Resource Management (CRM) is the vocation and practice of providing assistance in meeting these state and federal mandates. There is a need for people to be trained in this area. According to the Bureau of Labor, employment of anthropologists and archeologists is expected to grow faster than the average for all occupations in the next 6 years, and most of those jobs are related to some aspect of CRM. In the fall of 2012, a small group of state and federal archaeologists proposed to the Associate Dean of the History, Anthropology and Political Science Department that SLCC create a program that could provide the essential training for entry level positions in CRM. Currently such a program does not exist at any of the institutions of Higher Education in the state of Utah.

Section III: Institutional Impact

While the CRM program is a new unit, no organizational changes will be required. It will be administered by the History, Anthropology and Political Science Department and supported in large part by the full and part time Anthropology faculty. It will service two other programs- History and Anthropology. It is likely that the Anthropology and the CRM programs will reinforce each other because of the shared courses and the exposure that one will bring to the other. The CRM program will also be supported by and lend support to the Geography Program at SLCC in that two of the six required courses are GIS courses. The only new equipment that will need to be acquired are 5 sandboxes for the Fundamentals in Archaeology class. The Geography Program already has the equipment needed for those courses. We will need classroom space for the three new courses in the program.

Section IV: Finances

It will cost approximately \$13,000 a year to hire instructors to teach the courses and direct the internships. It will also cost the department \$903.82 for the construction of 5 sandboxes. It will have little impact on the budgets of other programs.

Curriculum

| Course Prefix and Number | Title | Credit Hours |
|--------------------------------|------------------------------|--------------|
| Required Courses | | |
| ANTH 1030 | World Prehistory (SS) | 3 |
| ANTH 2030 | Intro to Archaeology(SS) | 3 |
| ANTH 2969 | Cultural Resource Mgmt | 3 |
| ANTH 2990 | Historic Archaeology (ID) | 3 |
| ANTH 2000 | Archaeology Internship | 3 |
| -or- | -or- | -or- |
| ANTH 1941 | Fundamentals of Archaeology | 2 |
| GEOG 1800 | Mapping Our World (ID) | 3 |
| GEOG 1820 | Intermediate GIS | 3 |
| HIST 2000* | Internship-Archival Research | 3 |
| Total Number of Credits | | 24 |

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School of Science, Mathematics and Engineering Associate of Applied Science - Geospatial Technology Certificate of Proficiency - Geospatial Technology

Program Description

The Geospatial Technology program at SLCC provides students with a strong and cutting edge technical degree in geospatial technology addressing the Department of Labor's Geospatial Technology Competency Model (GTCM) with an emphasis in geographic information systems (GIS), remote sensing, and global positioning systems (GPS). The degree provides students with core competencies in GIS, but reaches farther into the geospatial spectrum by providing a strong emphasis in aerial and satellite-based remote sensing, photogrammetry, spatial data acquisition, cartographic design, and publication to the Internet. The program provides students with the opportunity to develop foundational skill sets in GIS along with advanced applications in web-based GIS, programming with Python, statistical analysis, open source GIS, entry-level surveying techniques, and mobile mapping applications.

Role and Mission Fit

Under R312, set forth by the Board of Regents, USHE recognizes the role Salt Lake Community College (SLCC) plays as being a leading and comprehensive community college. SLCC's mission is to provide quality higher education and lifelong learning to people of diverse cultures, abilities, and ages, and to serve the needs of community and government agencies, business and industry, and other employers. The mission of the Geospatial Technology program is to provide a solid foundation in leading, industry-driven geospatial technologies (e.g. Geographic Information Systems (GIS), aerial and satellite-based remote sensing, Global Positioning Systems (GPS), and survey-grade technology), along with the social, ethical, economic, and organizational facets related to the discipline and to meet the need for a highly trained workforce in geospatial technology in the State of Utah.

Faculty

Currently the Geosciences Department has four full-time, tenured and tenure-tracked faculty who are all trained in geospatial technology, but from different perspectives. There is a full-time faculty member for Geology, Geomatics (formerly Surveying), and two for Geography. Faculty members either have a graduate degree in their discipline and/or a certification. All faculty in the Geosciences Department are required to teach a minimum of one geospatial technology course as part of their teaching load. All faculty are continuously improving their knowledge and skill sets in geospatial technology in relation to their profession along with improving their teaching pedagogy to adapt to hybrid and online alternatives. In year four of the program, the Geosciences Department will request for a new full-time faculty member to help improve and grow the program.

Market Demand

Geospatial technologies in GIS, remote sensing, and surveying are some of the fastest growing, high-tech fields in the nation with jobs usually titled as GIS Analyst, GIS Technician, Mapping Technician, Cartographer, Intelligence Analyst, and Surveyor. In the U.S. Department of Labor's Occupational Outlook Handbook for 2010-2011, it is reported that fields in cartography, photogrammetry, and mapping technicians will increase 19 percent from 2008-2018 as "demand for fast, accurate, and complete geographic information" increases in the job market. The Occupational Information Network (O-NET) developed and sponsored by the U.S. Department of Labor and Employment and Training Administration, projects high job demand in geospatial technology through 2020. The department also has a strong Program Advisory Committee (PAC) in GIS and Geomatics, which helps the department determine market demand locally beyond national workforce and data.

Student Demand

Student demand is coming from a variety of directions. Currently within the GIS and Geomatics programs, students are coming to get trained in geospatial technology with existing degrees. The department's current stackable credentials, lower tuition rates, and lower classroom sizes has become highly appealing to students and industry seeking certification programs for their employees. There is also becoming more of an emphasis for online

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certificates and degrees at SLCC to meet student need. The goal of the department is to offer a fully online, fast-track Geospatial Technology Certificate of Proficiency starting in 2014. Finally, many academic programs see the interdisciplinary need for their own students to acquire geospatial knowledge and skill sets for them to be competitive and successful. This has created a student and academic department need for stackable credentials in this field because of the interdisciplinary nature of the field.

Statement of Financial Support *Indicate from which of the following the funding will be generated. Provide the detail for funding as part of the "Financial Analysis" section. (Remove these descriptive italics after completing this section of the template.)*

- Appropriated Fund
- Special Legislative Appropriation
- Grants and Contracts
- Special Fees/Differential Tuition
- Other (please describe)

Similar Programs Already Offered in the USHE

The importance of geospatial technology is recognized as a highly interdisciplinary technology throughout the USHE system that crosses nearly every academic discipline that requires spatial analysis.

- The University of Utah's Geography Department offers a GIS Certificate, with most courses at the 5000- and 6000-level and the introductory GIS course offered at the 3000-level. The University of Utah has been very supportive of the Geography/GIS program at SLCC for many years. <http://geog.utah.edu>
- Utah State University's College of Natural Resources offers courses in GIS and remote sensing for their Geography, Environment and Society, Watershed Sciences, and Wildland Resources programs. The college also provides students the Remote Sensing/GIS Laboratory for undergraduate and graduate research. <http://cnr.usu.edu/>
- Utah Valley University (UVU) offers the state's first and only Bachelor's of Science degree in Geomatics. Students completing this program gain knowledge and skill sets in GIS and surveying technology. UVU and the Geomatics (formerly Surveying) program within the Geosciences Department at SLCC have had an articulation agreement since the 4-year degree was established. <http://www.uvu.edu/geomatics/>
- Southern Utah University (SUU) offers a Bachelor of Interdisciplinary Study in GIS along with a GIS Certificate. <http://suu.edu/cose/physci/geosciences>
- The Geosciences Department at Weber State University (WSU) offers a Geospatial Analysis Minor with emphasis areas in GIS, remote sensing, and geospatial analysis, along with a Geomatics (Applied Mapping Sciences) Institutional Certificate. <http://www.weber.edu/geosciences/degrees.html>

There are several reasons why the Geospatial Technology program at SLCC differs from the 4-year institutions:

National Science Foundation Geospatial Education Partnerships

- The Geosciences Department since 2007 has actively participated in national organizations funded by the National Science Foundation that focuses on geospatial technology within community colleges. The department participated in the original Integrated Geospatial Education and Technology Training (iGETT) Institute and is an active member with it's recent refunding. The department has also been an active partner with the NSF ATE funded National GeoTech Center for Excellence. The department has been instrumental in helping lay the ground work an national learning outcomes and standards in geospatial technology training based on the Department of Labor's Geospatial Technology Competency Model (GTCM).

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Department of Labor TAAACT Grant

- In October 2010, the Geosciences Department was coawarded a \$20 million Department of Labor TAAACT grant with seven other 2-year colleges around the country. The national consortium is called the Networking, Information Security, and Geospatial Technology Consortium (NISGTC). The mission of the grant is to train TAA citizens along with other demographics in high-tech industries. Part of the grant requires the development of new certificates and degrees based on the GTCM.
- Through funding from the NISGTC, the department is currently developing a Geospatial Mentoring Program to help students develop professionally and network within the geospatial community. Professional mentors will guide, assist, monitor, and potentially assess student development to become successful professionals in the community.
- The department is currently working with local businesses to help provide students direct paid and un-paid internships in the geospatial profession along with potential entry-level job placements.

Enhancement of Existing Program

- The Geosciences Department at SLCC currently offers a GIST AAS degree along with a GIS Certificate of Completion. The main difference between the proposed Geospatial Technology program within the department (e.g. associate degrees and certificates) and the degrees and certificates offered at the 4-year institutions is our interdisciplinary focus as a "stackable credential" along with basing the program's learning outcomes on the GTCM. Whereas many of the other schools focus on the applications of GIS and remote sensing in Geography and or science-related fields, the Geospatial Technology program at SLCC is actively reaching out to other disciplines in the physical and social sciences along with Business, Criminal Justice, Homeland Security, and Computer Science programs within the college.
- The program also has chosen to use the Department of Labor's recently created GTCM as the benchmark to measure program outcomes, pedagogy, and assessments. The GTCM was developed by the Department of Labor along with the National GeoTech Center for Excellence, and industry to meet workforce needs.
- If approved, the department plans to implement a fully online Geospatial Technology Certificate of Proficiency to reach out to students living in rural areas, but who need geospatial skill sets.
- Not only is the Geospatial Technology program modeled after the GTCM, but also gets critical feedback from local Program Advisory Committees (PACs) to guarantee we are not only aligning with national standards, but meeting local needs.

Cost and classroom size at SLCC is also an important difference between the 4-year schools.

Curriculum

Associate of Applied Science – Geospatial Technology

| Course Prefix and Number | Title | Credit Hours |
|--------------------------------------|---|--------------|
| General Education | | |
| ENGL 1010 | Intro to Writing (EN) | 3 |
| SVT 1110 | Survey Math I (QS) | 4 |
| Communications | Any approved (CM) course | 3 |
| Human Relations | Any approved (HR) course | 2-3 |
| Distribution Area (choose 3 credits) | Any (BS), (FA), (HU), (ID), (PS), (SS) course | 3 |
| Sub-Total | | 15 |
| Required Courses | | |
| GEOG 1600 | Intro to Geographic Science | 3 |
| GEOG 1780 | Remote Sensing of Earth (PS) | 3 |
| GEOG 1800 | Mapping Our World (ID) | 3 |
| GEOG 1820 | Intermediate GIS | 4 |
| GEOG 2100 | Cartographic Principles | 4 |

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| Course Prefix and Number | Title | Credit Hours |
|--|--------------------------------|--------------|
| GEOG 2300 | Statistics for GIS | 3 |
| GEOG 2400 | Data Acquisition & Measurement | 3 |
| GEOG 2600 | Python for GIS | 4 |
| GEOG 2700 | Open Source GIS | 3 |
| GEOG 2800 | Web GIS | 4 |
| GEOG 2920 | Spatial Analysis | 4 |
| SVT 2110 | Photogrammetry | 3 |
| Sub-Total | | 44 |
| Elective Courses (choose 6 credits) | | |
| EDDT 1040 | Introduction to CAD | 3 |
| SVT 1010 | Introduction to Surveying | 1 |
| SVT 1030 | Survey Field Tech I | 3 |
| SVT 1120 | Surveying Math II | 4 |
| ARCH 1310 | Intro to AutoCAD | 3 |
| CIS 1555 | SQL Programming | 3 |
| CIS 2430 | Web Programming | 3 |
| CSIS 2640 | Mobile iOS App Dev | 3 |
| GEOG 2900 | Independent Projects | 3 |
| Sub-Total | | 6 |
| Total Number of Credits | | 65 |

Certificate of Proficiency – Geospatial Technology

| Course Prefix and Number | Title | Credit Hours |
|--------------------------------|-----------------------------|--------------|
| Required Courses | | |
| GEOG 1600 | Intro to Geographic Science | 3 |
| GEOG 1780 | Remote Sensing Earth (PS) | 3 |
| GEOG 1800 | Mapping Our World (ID) | 3 |
| GEOG 1820 | Intermediate GIS | 4 |
| GEOG 2100 | Cartographic Principles | 4 |
| GEOG 2920 | Spatial Analysis | 4 |
| Total Number of Credits | | 21 |

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School of Science, Mathematics and Engineering Certificate of Proficiency – Microscopy Certificate of Proficiency – Nanotechnology

Program Description

Since 2006, Utah has made significant strides in establishing a nanotechnology infrastructure, primarily through the Utah Science, Technology, and Research (USTAR) initiative. A significant milestone is the establishment of the Nano Institute of Utah in 2010. In developing STEM capabilities to meet Utah's strategic high-tech workforce needs, the emerging nanotechnology workforce should not consist entirely of Ph.D. recipients; it also needs to consist of skilled workers trained at a variety of levels. Evidence of the growing need for a skilled nanotechnology workforce is apparent by the fact that companies are hiring Ph.D.s for routine characterization jobs which could be more suitably filled by technicians. Although the University of Utah does offer a doctorate level certification in nanotechnology, there are no nanotechnology related training programs at two year colleges in Utah. Nanotechnology training programs are absent at two year colleges in Utah despite the fact that two million workers with nanotechnology related skill sets will be needed worldwide by 2015. Department of Labor estimates state that from 2010-2020 there will be a need for greater than 700 engineers and technicians with nanotechnology-related skill sets in the state of Utah. The gap in workforce demands provides an opportunity for the development of training programs to fulfill employment needs for technicians in nanoscience related industries. SLCC is poised help fill the gap by becoming the first two-year college in Utah to offer comprehensive certification programs in both nanofabrication and nanocharacterization. The Engineering Department at Salt Lake Community College (SLCC) proposes to address the need for nanotechnology technician training at the community college level by becoming the first academic institution in Utah to offer industry-driven certification program in nanofabrication. Lab based courses, industry participation in curriculum development, curriculum co-development between SLCC and the University of Utah, internship/co-op experiences, and high school outreach programs are among the activities that will be used to meet the project's goals.

Role and Mission Fit

Under R312, set forth by the Board of Regents, USHE recognizes the role of Salt lake Community College (SLCC) plays a being a leading and comprehensive community college. SLCC's mission is to provide quality higher education and lifelong learning to people of diverse cultures, abilities, and ages, and to serve the needs of the community and government agencies, buisness, and industry, and other employers. The two mains goals of NANO Tech supports SLCC's mission. The first goal is to provide opportunities for students to acquire marketable, technical skill sets in nanotechnology and microscopy that will be useful in industrial and academic research laboratories. Secondly, NANO Tech aims to prepare a new generation of students at the community college and high school levels for pursuit of nanotechnology and STEM related career paths.

Faculty

Since the implementation of the certificate of proficiency program in nanotechnology is built upon existing resources, no changes in existing administrative structures, physical facilities, or facility modifications will be needed. Presently two full-time, tenure-track faculty members are teaching the microscopy and nanotechnology courses associated with the proposed certificates. These positions are the result of a request made to the Utah Engineering Initiative in 2012 for the hiring of two new faculty members. Among the primary responsibilities of these faculty includes development of Advanced Microscopy certificates. One faculty member holds a Ph.D. in Materials Science, with a background in scanning electron microscopy. The other faculty member holds a Ph.D. in Chemistry, with atomic force microscopy experience. A former student who successfully completed microscopy and nanotechnology related course work at SLCC, facilitates laboratory exercises. The lab facilitator, in addition to faculty currently teaching associated course work, will be the personnel requirements for the proposed program.

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Market Demand

Nanotechnology training programs are absent at two year colleges in Utah despite the fact that two million workers with nanotechnology related skill sets will be needed worldwide by 2015. Currently, US nanotechnology companies need more workers with nanotechnology skill sets than are available. The need for a substantial nanotechnology workforce is so great, the National Nanotechnology Initiative (NNI), the US Government's interagency program for coordinating nanotechnology research, addressed the need for nanotechnology technician training in a four point strategic plan. One of the points involves the initiation, development, support, and sustainability of programs for educating, training, and maintaining a skilled nanotechnology workforce¹⁰. The gap in workforce demands provides an opportunity for the development of training programs to fulfill employment needs for technicians in nanoscience related industries¹¹. SLCC is poised help fill the gap by becoming the first two-year college in Utah to offer comprehensive certification programs in both nanofabrication and nanocharacterization.

Student Demand

These certification programs will serve students enrolled in STEM associates degree programs and dislocated workers who desire to enter the nanotechnology workforce. They will also serve existing technicians in nanotechnology related areas who desire to acquire new skill sets. Although the certifications are primarily geared toward students planning to enter the nanotechnology workforce, they will also serve students who wish to enroll in nanotechnology related baccalaureate STEM programs at the University of Utah.

Statement of Financial Support

In the 2013 Fall semester, the Engineering Department at Salt Lake Community College submitted a NSF-ATE proposal funding for two comprehensive certificate of proficiency training programs to produce technicians with nanotechnology related skill sets, and for the development of additional courses and laboratory exercises associated with the certifications. This project is designed to be sustained beyond the grant period utilizing (1) student lab fees and (2) existing technical staff. Student lab fees will be used to cover the cost of consumables and for equipment usage fees associated with certifications. A technical support team consisting of existing staff members in the School of Science, Mathematics, and Engineering will be used for lab instruction and equipment maintenance after the grant period ends. Additionally, the curriculum for both certification programs is expected to become an integrated part of the College's offerings and programs.

| | |
|---|-------------------------------------|
| Appropriated Fund..... | <input checked="" type="checkbox"/> |
| Special Legislative Appropriation..... | <input type="checkbox"/> |
| Grants and Contracts..... | <input checked="" type="checkbox"/> |
| Special Fees | <input type="checkbox"/> |
| Differential Tuition (must be approved by the Regents)..... | <input type="checkbox"/> |
| Other (please describe)..... | <input type="checkbox"/> |

Similar Programs Already Offered in the USHE

Although the University of Utah does offer a doctorate level certification in nanotechnology, there are no nanotechnology related training programs at two year colleges in Utah. Nanotechnology training programs are absent at two year colleges in Utah despite the fact that two million workers with nanotechnology related skill sets will be needed worldwide by 2015. The gap in workforce demands provides an opportunity for the development of training programs to fulfill employment needs for technicians in nanoscience related industries. SLCC is poised help fill the gap by becoming the first two-year college in Utah to offer comprehensive certification programs in both nanofabrication and nanocharacterization.

Curriculum

Certificate of Proficiency – Microscopy

SLCC Program Proposals

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| Course Prefix and Number | Title | Credit Hours |
|--|--|--------------|
| Required Courses | | |
| CHEM 1210 | General Chemistry I | 4 |
| CHEM 1215 | General Chemistry Lab I | 1 |
| EE 1010 | Lab Instruments and Methods | 1 |
| ENGR 1050 | Introduction to Nanotechnology (ID) | 3 |
| MSE 1820 | Fundamentals of Optical Microscopy | 2 |
| MSE 2320 | Intro Scan Prob Microscopy | 2 |
| MSE 2330 | Intro to SEM | 2 |
| MSE 2000 | Cooperative Education in Materials Science | 1-2 |
| Sub-Total | | 16 |
| Elective Courses (choose 4 credits) | | |
| MSE 2010 | Intro to Materials Science Engineering | 4 |
| -or- | -or- | -or- |
| MSE 2160 | Elements of Material Science | 3 |
| GEO 1010 | Introduction to Geology | 3 |
| GEO 1115 | Physical Geology Lab | 1 |
| BTEC 1010 | Introduction to Biotechnology | 3 |
| BTEC 1015 | Introduction to Biotechnology Lab | 1 |
| Sub-Total | | 4 |
| Total Number of Credits | | 20 |

Certificate of Proficiency – Nanotechnology

| Course Prefix and Number | Title | Credit Hours |
|--|--|--------------|
| Required Courses | | |
| CHEM 1210 | General Chemistry I | 4 |
| CHEM 1220 | General Chemistry II | 4 |
| ENGR 1050 | Introduction to Nanotechnology | 3 |
| ENGR 2050 | Nano II – Properties of Nanomaterials | 3 |
| ENGR 2070 | Micro and Nanoscale Fabrication Processes | 2 |
| MSE 2960 | Foundations of Microsystems | 1 |
| MSE 1820 | Fundamentals of Optical Microscopy | 2 |
| MSE 2320 | Intro Scan Prob Microscopy | 2 |
| -or- | -or- | -or- |
| MSE 2330 | Intro to SEM | 2 |
| MSE 2000 | Cooperative Education in Materials Science Engineering | 1-2 |
| Sub-Total | | 22 |
| Elective Courses (choose 4 credits) | | |
| MSE 2010 | Intro to Materials Science Engineering | 4 |
| -or- | -or- | -or- |
| MSE 2160 | Elements of Material Science | 3 |
| CHEM 2310 | Organic Chemistry I | 4 |
| BTEC 1010 | Introduction to Biotechnology | 3 |
| BTEC 1015 | Introduction to Biotechnology Lab | 1 |
| Sub-Total | | 4 |
| Total Number of Credits | | 26 |