UTAH SYSTEM OF HIGHER EDUCATION

MEMORANDUM

December 16, 2022

Program Alignment

The Utah Board of Higher Education (UBHE) 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. These differences are confusing to stakeholders seeking to identify and compare program requirements, associated costs, and time to completion. Further, these differences add burden to degree granting institutions desiring to develop and maintain articulation agreements between technical education institutions.

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 prescribed or elective non-aligned courses representing regional employment needs comprised 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.
- Non-aligned 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 aligned program requirements.

Participation and Review Process

- Faculty Program Committees propose program title, length, description, and objectives, as well as course titles, lengths, descriptions, and objectives. Faculty members are encouraged to engage with occupational advisory committees, degree granting partner institutions, and other interested institutional personnel in the development of these proposals.
- Instructional designers from participating institutions review program and course descriptions and objectives. Recommended changes are reviewed and accepted by faculty.
- The Office of the Commissioner compiles and submits Program Committee proposals and modifications of proposals to Instructional Officers for review and recommendations.
- 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.

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

Commercial Driver's License Class B			
Institutions: Tooele			
Certificate of Program Completion (Catalog Year: 2023, 3 Credits/90 Clock-Hours Required, CIP: 49.0205)			
Core (3 Credits/100 Clock-Hours)		**Credits**	**Clock-Hours**
TECD 1150	Commercial Driver's License Class B	3	90

PROGRAM DESCRIPTION

The Commercial Driver's license Class B program prepares students with the skills and knowledge they need to join the professional driving industry. This course fulfills the Federal Entry Level Driver Training requirements found in Pt 380 of the Federal Code of Federal Regulations.

Objectives:

- Demonstrate Basic Truck operation procedures and skills
- Demonstrate safe operating procedures
- Learn and Practice defensive driving techniques
- Drive and control a class B truck on local, city, county, and interstate highways and roads
- Practice vehicle inspections (pre/post-trip, enroute)
- Practice safe backing techniques
- Review Non-driving activities (HOS, Cargo securement)

COURSE DESCRIPTIONS

Commercial Driver's License Class B **3 Credits/90 Clock-Hours**

The Commercial Driver's License Class B Course prepares students in the Entry Level Driver Training requirements and regulations as required by Federal/state and College agencies. Including classroom theory, backing skills, and behind the wheel road skills.

Objectives:

- Demonstrate Basic Truck operation procedures and skills
- Demonstrate safe operating procedures
- Learn and Practice defensive driving techniques
- Drive and control a class B truck on local, city, county and interstate highways and roads
- Practice vehicle inspections (pre/post-trip, enroute)
- Practice safe backing techniques
- Review Non-driving activities (HOS, Cargo securement)

Utah System of Higher Education

Web Programming & Development

FY2023 / 27 Credits (900 Clock-Hours)

Web Programming & Development			
Institutions: Mountainland			
Certificate of Program Completion (Catalog Year: 2023, 27 Credits/900 Clock-Hours Required, CIP: 11.0201)			
Core (27 Credits/900 Clock-Hours)		**Credits**	**Clock-Hours**
TEWP 1010	Introduction to Web Development	2	60
TEWP 1020	JavaScript Programming	4	120
TEWP 1030	React.js	3	90
TEWP 1040	Backend Programming	2	60
TEWP 1050	Deployment & Security	1	30
TESD XXXX	Server-side Web Development	4	120
TEWP 1070	Angular Framework	4	120
TEWP 1080	Capstone	2	60
TEWP 1900	Web Programming & Development Externship I	4	180
TEWP 1910	Web Programming & Development Externship II	1	60

UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education

Web Programming & Development
FY2023 / 27 Credits (900 Clock-Hours)

PROGRAM DESCRIPTION

This program provides students with the knowledge of computational, problem-solving and practical skills needed to integrate and deploy modern websites and web applications. Students will adapt and use industry-standard tools, including modern client-side and server-side languages and relational and non-relational database structures, to frameworks used in the web industry today.

Experienced web developers and software engineers in the industry provide instruction and share knowledge and skill sets as they mentor the students. This program is designed to give students the skills needed to be a Front-End, Junior-Level, Web Developer or Quality Assurance Technician.

Students will learn basic Front-End Development including Source Control, HTML, CSS, Bootstrap and Sass. Students will then spend the majority of the program learning JavaScript, TypeScript, Angular and React. The remainder of the program will cover Back-End Development as it relates to Back-end servers, Database, Hosting, Deployment, Security and Automated QA. Throughout the program students will complete a series of professional portfolio projects. Finally, students must complete an externship in order to receive a certificate of completion for this program.

Objectives:

- Demonstrate the knowledge and skills necessary for entry-level employment in the Web Programming and Development careers.
- Implement design, authoring, standards, protocols, tools and techniques for development for different Web-based technologies.
- Use industry-standard programming languages and techniques to add user interactivity to Web sites and Web applications. ● Build maintainable and robust React and Angular real-world applications.
- Create real-world web application projects that also involve interacting with databases such as Postgres and NoSQL databases like MongoDB.
- Use Automated QA principles to monitor and ensure increasing improvements for web applications and be able to identify some of the mechanisms used to establish overall health of a product.
- Consider important security concerns when developing websites, and keep servers, software, and data safe from hackers and cyber-attacks.
- Complete a series of professional portfolio projects that they can showcase to potential employers.
- Demonstrate basic understanding of cloud deployment models, and a summary of cloud design principles. Students will be able to create an account and start using the AWS Free Tier to gain hands-on experience with AWS products and services and be prepared to pass the AWS Certified Cloud Foundations exam.
- Develop, implement and evaluate web applications to ensure that it is properly structured, meets industry standards and compatible with browsers and devices using industry cutting-edge technologies for building web applications.

COURSE DESCRIPTIONS

Introduction to Web Development **2 Credit/60 Clock-Hours**

This course is gives students an in-depth understanding of how to build web pages and a solid foundation for your future development or website-building career. Students will learn the basic concepts of the

internet, web pages, markup coding and best practices that are applicable in the real-world environment using Git, GitHub, HTML, CSS, Bootstrap, Sass and JavaScript.

Objectives:

- Implement common HTML tags in a functional coding format to create a Web site using current standards and technologies.
- Demonstrate the ability to upload and publish a Web page on a Web server.
- Explore best practices in modern responsive website design.
- Receive common computational problem-solving techniques and training useful to entry-level web developers and programmers.

JavaScript Programming **4 Credits/120 Clock-Hours**

This course introduces students to a great foundation in computer programming using JavaScript. Students will learn to use JavaScript to cover basic programming including arrays, functions, objects, events & the DOM, web API's. JavaScript is a widely-used industry programming language that can integrate with other languages and frameworks, providing learners a context in which to learn foundational programming concepts that can easily transfer to other programming languages.

Objectives:

- Learn a high-level overview of JavaScript as a programming language and some of the features that make it different from other programming languages.
- Implement and know how to effectively work with objects and inheritance in JavaScript and know how all this works behind the scenes.
- Create, build and start a basic server using JavaScript and Node.js.
- Know the importance of built-in Object and Array functions which will speed up development time and make code much more readable and concise.

React.js **3 Credits/90 Clock-Hours**

React is one of the web's most popular libraries that is used in production by huge companies like Twitter, Netflix, and Microsoft. React is fun to use and its component architecture makes it faster and easier to build scalable, maintainable and amazing products for the web including native platforms. This course will introduce the fundamentals of React using modern syntax and best practices for creating React components. Students will have hands-on experience with React's core concepts, and explore other concepts like testing, data fetching, routing and much more.

Objectives:

- Demonstrate how to use the fundamental building blocks of creating React components to build small and scalable web applications.
- Build simple and flexible React Components and Hooks using modern react patterns.
- Execute the essential tools and techniques to write, test, and deploy React components and applications with confidence.

Backend Programming **2 Credits/60 Clock-Hours**

This course will help students understand the concept that every great web application begins with the components of user experience and the business impact of delivery, deployment and support that is quick, cost effective, and requires great functionality. Students will learn that the combination of JavaScript, Node, and Express is an ideal choice for web teams that want a powerful, quick-to-deploy technology stack that is widely respected in the development community and large enterprises alike.

Objectives:

- Identify Node.js, core modules, and NPM (Node Package Manager) and how it works behind the scenes with event loop, blocking vs non-blocking code, event-driven architecture, streams, modules, etc.
- Explain the features and functions of Express (Node.js framework) from routing, middleware, to sending responses.
- Create a real-world web application to demonstrate how MVC (Model-View-Controller) architecture is applied.

Deployment & Security **1 Credits/30 Clock-Hours**

This course will provide foundational knowledge and hands-on projects that will teach students theory and practical skill required to install Docker and be aware of critical security risks to web applications. Students will learn to build, run, and deploy applications anywhere using the World's leading software container platform.

Objectives:

- Create, build and manage Docker images and containers effectively.
- Deploy course web application projects using Docker containers.
- Practice how to securely configure your browser to block malicious scripts, cookies, trackers, and so on, as well as maintain good privacy/anonymity on the Internet to safeguard your development environment.
- Learn best practices and fundamentals of confidently managing emails, business files, computers, mobile devices, and internet browsing.
- Understand human emotions, patterns and work on real life cases about how hackers trigger or trick people into providing access to money, personal accounts, systems, and company network.

Server-side Web Development **4 Credits/120 Clock-Hours**

Server-side programming explores delivering a customized user experience. This course combines the skills of programming, client-side development, and relational database management to create and manage dynamic web-based content. Students will be exposed to using, creating, and testing web APIs.

Objectives:

- Implement server-side programming to serve the client-side development.
- Demonstrate proper syntax, patterns, data structures, and functional usage of server-side language.
- Connect and utilize databases.
- Develop controls and event-handling procedures.
- Apply server-side concepts and techniques to create, manage, and use dynamic web pages.
- Employ API testing and development.

Angular Framework **4 Credits/120 Clock-Hours**

Angular is one of the fastest, most popular open source web app frameworks today, and knowing how to deploy and use it is essential for developers. Angular is a TypeScript-based open-source web application framework led by the Angular Team at Google and by a community of individuals and corporations. Angular allows developers to create beautiful, performant, easily maintainable websites incredibly quickly. Student will learn to be proficient in the use of the Angular framework and produce full scale Angular applications.

Objectives:

- Demonstrate code for a full-scale Angular application
- Create components and user interfaces, data-binding, retrieving data using HTTP, and more.
- Build and deploy this application so that it can be accessed from anywhere.
- Communicate effectively with other Angular developers by knowing the fundamental concepts of Angular.
- Recognize good and bad patterns in Angular code.

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

The Capstone course enhances students' employability in the industry as they demonstrate their ability to plan, design and execute a responsive web project using the technology that they have acquired so far. The project must adhere to validation and accessibility standards. Students showcase a complete client project from concept to the final presentation.

Objectives:

- Research and develop a design system (color, typography, and layout) based on research and client information for the project.
- Develop and publish a web project using standards-compliant HTML, CSS, and any other technology stack.
- Conduct and present basic usability testing on the site and correct any issues.
- Design professional-level web page layouts with attention to usability: consistent navigation, clear visual hierarchy, and intuitive interface design.
- Present your project utilizing critical thinking ability, professional presentation skills, and the ability to explain your creative process.
- Create a professional resume, cover letter and reference sheet
- Expand and develop networking skills
- Demonstrate the ability to fill out job applications in a professional manner

Web Programming & Development Externship I **4 Credits/180 Clock-Hours**

Upon completion of the classroom portion of the MTECH Web Development Program, students will find an externship opportunity to complete 180 hours within a real-world software development environment.

Objectives:

- Use source control principles and technologies to track and manage code.
- Write, review, and edit HTML, CSS, JavaScript libraries or frameworks like React and/or Angular code while completing assigned tasks.
- Collaborate with other team members while working to complete defined project goals.
- Students are embedded into existing development teams, or organized into small project groups with other students.
- Students engage in tasks and assignments to support product development and/or other special development projects.

Web Programming & Development Externship II **1 Credits/60 Clock-Hours**

Upon completion of the classroom portion of the MTECH Web Development Program, students will find an externship opportunity to complete 60 hours within a real-world software development environment.

UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education

Web Programming & Development
FY2023 / 27 Credits (900 Clock-Hours)

Objectives:

- Use operating system commands and utilities to execute, test, troubleshoot and configure code and web applications.
- Utilize knowledge of back-end (server side) technologies while completing assigned tasks.
- Utilize knowledge of database technologies while completing assigned tasks.
- Students engage in tasks and assignments to support product development and/or other special development projects.

Utah System of Higher Education

Diesel Technology

FY2023 / 35 Credits (1050 Clock-Hours)

Diesel Technology			
Institutions: Bridgerland, Davis, Dixie, Mountainland, Salt Lake, Snow, Tooele, Uintah Basin, USU-Eastern			
Certificate of Program Completion (Catalog Year: 2023, 35 Credits/1050 Clock-Hours Required, CIP: 47.0605)			
Core (30 Credits/900 Clock-Hours)		**Credits**	**Clock-Hours**
TEDT 1010	Introduction to Diesel Technology	2	60
TEDT 1100	Electrical I	4	120
TEDT 1110	Electrical II	4	120
TEDT 1200	Steering and Suspension	4	120
TEDT 1300	Brakes	4	120
TEDT 1400	Drivetrain	4	120
TEDT 1600	Engines I	4	120
TEDT 1610	Engines II	3	90
TEDT 1500	Preventative Maintenance I	1	30
Electives (5 Credit/150 Clock-Hours)			
Bridgerland, Davis, Dixie, Salt Lake, Snow, Tooele, Uintah Basin, Utah State University - Eastern			
TEDT 1700	Hydraulics	2	60
TEDT 1800	Heating, Ventilation, and Air Conditioning (HVAC)	3	90
Mountainland			
TEDT 1810	Heating, Ventilation, and Air Conditioning (HVAC)	2	60
TEDT 1510	Preventative Maintenance II	3	90

Utah System of Higher Education

Diesel Technology
FY2023 / 35 Credits (1050 Clock-Hours)

PROGRAM DESCRIPTION

The Diesel Technology program prepares students with the diversified employment skills and knowledge as diesels technicians, including hands-on instruction in diesel engines; electrical/electronic systems; steering and suspension; brakes; drivetrain; heating, ventilation, and air conditioning; hydraulics; preventative maintenance; safety; professionalism; and workplace relations.

Objectives:

- Demonstrate safe working habits and practices
- Demonstrate knowledge related to the service, maintenance, operation, and function of the core systems related to diesel powered equipment
- Build and maintain good working relationships

COURSE DESCRIPTIONS

Introduction to Diesel Technology **2 Credit/60 Clock-Hours**

Introduction to Diesel Technology course provides students an introduction to Heavy-Duty commercial vehicles, including available careers and the skills and certifications required. Students will receive instruction in safety, personal protection equipment, the use of basic tools and shop equipment.

Objectives:

- Demonstrate a safety-oriented mindset and always ensure a safe working environment
- Demonstrate the proper use of the tools and equipment needed to work in the diesel industry
- Demonstrate the ability to measure, identify and repair fasteners and hoses related to the diesel industry

Electrical I **4 Credits/120 Clock-Hours**

Electrical I provides theory and hands-on instruction on the principals of electricity, basic components, sensors, circuits, wiring schematics, and multi-meters.
Objectives:

- Identify electrical systems associated with diesel vehicles
- Explain basic electrical circuits and how they work
- Discuss battery, starting circuits, and charging systems and their proper function

Electrical II **4 Credits/120 Clock-Hours**

In the Electrical II course, students learn advanced electrical theory and diagnostic procedures.

Objectives:

- Diagnose electrical systems associated with diesel vehicles
- Interpret electrical schematics and apply them to the diesel industry
- Demonstrate basic use of computer guided electrical diagnostics as it pertains to engine chassis and braking systems

Steering and Suspension **4 Credits/120 Clock-Hours**

The Steering and Suspension course provides theory and hands-on instruction on the maintenance and repair of front axles, alignment, truck frames, steering and suspension systems, and coupling devices.

Objectives:

- Safely work on and around steering and suspension systems
- Identify the major steering and suspension components related to Class 6,7, and 8 trucks
- Diagnose, adjust, and repair steering and suspension systems related to Class 6, 7, and 8 trucks

Brakes **4 Credits/120 Clock-Hours**

Brakes provides theory and hands-on instruction on heavy duty braking systems. Students will learn maintenance and repair of wheels and tires, hubs and wheel bearings, air brake systems, drum and rotor brakes, Anti-lock braking system (ABS), and hydraulic braking systems.

Objectives:

- Maintain vehicle safety through safe brake maintenance and repairs
- Identify and repair the major components related to truck air foundation brake systems
- Identify and repair truck air disk brake systems

Drivetrain **4 Credits/120 Clock-Hours**

In this Drivetrain course, students receive theory and hands-on instruction on maintenance and repair of the heavy-duty drive train systems. Topic will include clutches, transmissions, drive lines, and differentials. Objectives:

- Identify the major components of the drivetrain system
- Explain the function of the drivetrain systems
- Repair, replace, and diagnose drivetrain system components related to the transportation industry

Engines I **4 Credits/120 Clock-Hours**

Engines I provides theory and hands-on instruction in basic operation, parts, and overhaul procedures of diesel engines. Students learn the removal, service, and repair of engine blocks, crankshafts, pistons, rings, connecting rods, camshafts, valve trains, injection pumps, and accessories.

Objectives:

- Identify the major components of the internal combustion diesel engine
- Explain the function of the major components of the internal combustion diesel engine
- Disassemble, inspect, and reassemble the major components of a diesel engine

Engines II **3 Credits/90 Clock-Hours**

Engines II provides the student with more advanced theory and hands-on instruction in diagnostics and operational systems of the internal combustion engine, including emissions, fuel, and after-treatment systems.

Objectives:

- Identify the type of diesel fuel system and explain its operation
- Identify the components of modern diesel engines emission systems
- Explain how modern diesel emission systems components function to meet current EPA standards
- Service, diagnose, and repair internal combustion engines, fuel, and emission aftertreatment systems

Preventative Maintenance I **1 Credits/30 Clock-Hours**

The Preventative Maintenance course introduces students to the service and preventive maintenance practices found within the trucking industry. Instruction includes inspection and maintenance of truck and trailer systems, engine systems, electrical systems, frame, and steering components.

Objectives:

- Discuss preventative maintenance and why it is so important for safety and productivity of the diesel industry
- Inspect all truck systems and determine vehicles meets safe working standards
- Demonstrate the service and maintenance of commercial truck systems

NON-ALIGNED (ELECTIVE) COURSE DESCRIPTIONS

Bridgerland, Davis, Dixie, Uintah Basin, USU-E

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

The Hydraulics course provides theory and hands-on instruction of fluid power as used in modern mobile equipment. Topics include the operation and repair of hydraulic/pneumatic components and systems. This course emphasizes testing, troubleshooting, design, and use of hydraulic schematics.

Objectives:

- Explain the dangers of working with hydraulics and how to safely eliminate them
- Identify and explain the proper function of basic hydraulic systems
- Diagnose and repair hydraulic systems

Heating, Ventilation, and Air Conditioning (HVAC) **3 Credits/90 Clock-Hours**

Heating, Ventilation, and Air Conditioning (HVAC) provides students with theory and hands-on instruction regarding troubleshooting and repair of heavy-duty truck air conditioning systems. Topics include condensers; check valves; driers; compressors; evaporators; controls; heating and cooling systems and controls; and refrigerant handling.

Objectives:

- Discuss the function of the heating ventilation and air conditioning systems
- Demonstrate proper use of an HVAC recovery machine
- Diagnose, repair, and recharge vehicle HVAC systems in accordance with EPA laws and regulations.

Mountainland Technical College

Heating, Ventilation, and Air Conditioning (HVAC) **2 Credits/60 Clock-Hours**

Heating, Ventilation, and Air Conditioning (HVAC) provides students with theory and hands-on instruction regarding troubleshooting and repair of heavy-duty truck air conditioning systems. Topics include condensers; check valves; driers; compressors; evaporators; controls; heating and cooling systems and controls; and refrigerant handling.

Objectives:

- Discuss the function of the heating ventilation and air conditioning systems
- Demonstrate proper use of an HVAC recovery machine
- Diagnose, repair, and recharge vehicle HVAC systems in accordance with EPA laws and regulations

Preventative Maintenance II **3 Credits/90 Clock-Hours**

This course covers identification of additional components on the truck. It teaches the importance of doing inspections and preventative maintenance for heavy duty trucks, and of following recommended practices from manufacturers.

Objectives:

- Discuss each section of the tuck and help the students identify components and basic services.
- Discuss the importance and safety protocols of a full inspection on a truck.
- Perform pre-trip inspections on a truck, and the truck systems.
- Create a preventative maintenance schedule, including where you can find the information from manufacturers.

UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education

Nail Technician

FY2023 / 9 Credits (300 Clock-Hours)

Nail Technician			
Institutions: Davis, Mountainland, Ogden-Weber, Snow College, Tooele			
Certificate of Program Completion (Catalog Year: 2023, 9 Credits/300 Clock-Hours Required, CIP: 12.0410)			
Core (6 Credits/210 Clock-Hours)		**Credits**	**Clock-Hours**
TENT 1010	Beauty Foundations	1	30
TENT 1100	Nail Technician I	3	90
TENT 1200	Nail Technician II Clinical	2	90
Electives (3 Credits/90 Clock-Hours)			
Davis Technical College			
TENT 1300	Advanced Technique and Business Basics	3	90
Mountainland Technical College			
TENT 1400	Professional Development	1	30
TENT 1410	Advanced Nail Technique	1	30
TENT 1420	Employment Preparation	1	30
Ogden-Weber Technical College			
TENT 1500	Nail Technician Business and Advance Techniques	3	90
Snow College			
TENT 1600	Advanced Techniques Class/Lab	2	60
TENT 1610	Nail Technician Business Basics	1	30
Tooele Technical College			
TENT 1700	Nail Technician Business and Skill Application	3	90
Utah State University - Eastern			
TENT 1700	Nail Technician Business and Skill Application	3	90

Utah System of Higher Education

Nail Technician

FY2023 / 9 Credits (300 Clock-Hours)

PROGRAM DESCRIPTION

The nail technician program provides the skills needed to work in a beauty or nail salon performing services such as manicures, pedicures and a nail enhancement. Instruction consists of artificial nail techniques including wraps, tips, gel, sculptured acrylic nail, nail art, mechanical techniques, manicuring with hand and arm massage, pedicuring including massaging of the lower leg and foot sanitation and sterilization, bacteriology and salon safety, disorders of the nail and skin, professional ethics and salon management, and licensing laws and rules. Upon completion of the program, students have the knowledge and skills needed to take the state written and practical examinations required for licensure.

Objectives:

- Perform client protection safety and infection control procedures including first aid.
- Recognize various diseases and disorders of skin and nails.
- Apply artificial nail techniques consisting of wraps, nail tips, gel nails, acrylic nails, and nail art.
- Evaluate various professional behaviors within the beauty industry.
- Discuss history, chemistry, anatomy and physiology.
- Demonstrate safe use of implements tools and electrical equipment.
- Demonstrate competency to pass nail technology State examinations.

COURSE DESCRIPTIONS

Beauty Foundations — 1 Credit/30 Clock-Hours

This course will cover core skills including safety, infection control, and professional behavior.

Objectives:

- Demonstrate professional image and communication skills to be successful in the Nail Technician industry.
- Discuss issues related to career planning, beauty business, and job performance.
- Perform safe practices related to infection control, chemistry and use of chemical products, and electrical equipment.

Nail Technician I — 3 Credits/90 Clock-Hours

This course will explore the history of nail history, basic anatomy, skin and nail structure and growth, as well as recognize and prevent infections. You will study the fundamentals of manicures, pedicures, nail tips and wrap application, acrylic(s), gel(s), polish and their applications. You will then demonstrate these procedures using the current techniques and electrical equipment of the profession. discuss the importance of communicating effectively with clients and how to covey a professional image. Students must meet industry and State standards in safety and sanitation.

Objectives:

- Discuss the history of nail technology.
- Describe the principles of hygiene.
- Demonstrate effective communication skills with your salon guests and coworkers.
- Explain and demonstrate sanitation procedures and the importance of sanitation for the health & safety of clients and self.
- Explain the importance of anatomy and physiology, skin and nail growth and structure, nail diseases and disorders related to the nail technology profession.
- Describe and demonstrate the proper manicure and pedicure procedures and techniques including state board manicure.

- Demonstrate the use and safety of electrical equipment and tools for the industry and proper removal techniques of acrylic and gel enhancements and UV gel polish.
- Practice natural nail care (manicure and pedicure).
- Demonstrate and perform proper techniques and application of acrylic, gels, tips, forms and wraps.

Nail Technician II Clinical **2 Credits/90 Clock-Hours**

This course builds on the foundation skills learned in Nail Technician I and provides additional instruction in nail art techniques. While in this course you must fulfill all the requirements of an industry employee in performing a number of nail services. In addition, you will study work ethics, time management skills and essential business skills, licensing and laws.

Objectives:

- Practice salon process and etiquette.
- Communicate effectively with your salon guests and coworkers.
- Demonstrate sanitation procedures and the importance of sanitation for the health & safety of clients and self.
- Identify skin and nail structure, growth, diseases and disorders related to the nail technology profession.
- Demonstrate the proper manicure and pedicure procedures and techniques including state board manicure.
- Practice natural nail care (manicure and pedicure).
- Demonstrate the use and safety of electrical equipment and tools for the industry and proper removal techniques of acrylic, gels, and UV gel polish.
- Demonstrate and perform proper techniques and application of acrylic, gels, tips, forms and wraps.

NON-ALIGNED (ELECTIVE) COURSE DESCRIPTIONS

Davis Technical College

Advanced Technique and Business Basics **3 Credits/90 Clock-Hours**

In the Advanced Technique and Business Basics course, students learn and practice the most current nail techniques on salon guests. Students will also learn success practices in the nail technician business.

Objectives:

- Demonstrate current nail services with salon guests.
- Demonstrate competency to pass the State Nail Technician examinations.
- Demonstrate proper business & marketing concepts in the beauty profession.

Mountainland Technical College

Professional Development **1 Credits/30 Clock-Hours**

In the Professional Development course, students will build on the knowledge and skills necessary to prepare for application on the clinic floor. Students will prepare to pass the State of Utah licensure exams.

Objectives:

- Demonstrate proper state board procedures with regard to safety and sanitation
- Practice salon process and etiquette

- Demonstrate effective communication with students, faculty, and staff members

Advanced Nail Technique **1 Credits/30 Clock-Hours**

This course requires practice in current nail trends, advanced nail art, nail shaping and techniques.

Objectives:

- Demonstrate the use of electrical equipment and tools for the industry
- Demonstrate and perform proper techniques acrylic, gels, tips, forms, wraps and advanced nail art.

Employment Preparation **1 Credits/30 Clock-Hours**

Students will learn about business, employment, professionalism, sanitation, safety standards and creating a professional portfolio and resume.

Objectives:

- Create a professional portfolio including a resume and examples of salon services
- Demonstrate professionalism in the salon including how to deal with guests
- Demonstrate understanding of record keeping for taxes, income, expenses and practice budgeting

Ogden-Weber Technical College

Nail Technician Business and Advanced Techniques **3 Credits/90 Clock-Hours**

In this course, students learn and prepare for the salon while practicing nail services and protocols for the State examinations. Students learn success habits for nail technician professionals.

Objectives:

- Demonstrate proper business & marketing concepts in the beauty profession.
- Discuss professional etiquette appropriate for the salon.
- Demonstrate competency to pass the State Nail Technician examinations
- Discuss pertinent issues related to business & marketing concepts in the beauty profession.
- Demonstrating nail service skills on mannequins

Snow College

Advanced Techniques Class/Lab **2 Credits/60 Clock-Hours**

In this class students will learn basic and advanced techniques of nail care and design. The students will also demonstrate proper infection control procedures on clients and practice proper massage manipulations on clients. The students will also study and practice passing the state board exams at the minimum standard of 70%.

Objectives:

- Practice and learn the importance of safety, sanitary nail care, and infection control on both equipment and clients.
- Master fingernail extensions, basic spa manicures and pedicures.
- Discuss and demonstrate proper muscle massage manipulations learned from anatomy courses.
- Demonstrate the safe use of electric files being used on natural and artificial nails
- Learn how to care for the natural nail and safely remove professional products for the natural nail.

- Practice and perfect knowledge and skills necessary in passing the written and practical state board exams.

Nail Technician Business Basics **1 Credits/30 Clock-Hours**

In this course students will perfect skills they have learned in previous classes in sanitation practices, improving soft skills, and enhancing their business and marketing skills.

Objectives:

- Perfect and demonstrate procedures covered in previous courses covering business skills, proper safety, infection control procedures, and professional behavior.
- Implement business and marketing skills to include a business portfolio and business statement.
- Demonstrate and perfect skills gained in previous courses in acting professionally, communicating effectively with clients to avoid infectious diseases, and proper sanitation practices while working on client.

Tooele Technical College

Nail Technician Business and Skill Application **3 Credits/90 Clock-Hours**

This course focuses on employment preparation, incorporated with professional development. It builds upon previous course knowledge and helps develop skills in current trends and techniques essential to becoming a successful nail technician. Students will be educated on their career opportunities.

Objectives:

- Demonstrate advanced competencies necessary to progress into a salon setting. Students will be exhibiting essential skill improvement, including timing and technical ability.
- Demonstrate training on trending nail art applications, electric filing, and showcase advanced knowledge of basic manicuring and pedicuring techniques.
- Demonstrate advanced procedures in a variety of nail enhancements.
- Practice, demonstrate, and implement a client consultation in preparation for the professional setting.
- Build and showcase work examples in a professional portfolio.

Utah State University – Eastern

Nail Technician Business and Skill Application **3 Credits/90 Clock-Hours**

This course focuses on employment preparation, incorporated with professional development. It builds upon previous course knowledge and helps develop skills in current trends and techniques essential to becoming a successful nail technician. Students will be educated on their career opportunities.

Objectives:

- Demonstrate advanced competencies necessary to progress into a salon setting. Students will be exhibiting essential skill improvement, including timing and technical ability.
- Demonstrate training on trending nail art applications, electric filing, and showcase advanced knowledge of basic manicuring and pedicuring techniques.
- Demonstrate advanced procedures in a variety of nail enhancements.
- Practice, demonstrate, and implement a client consultation in preparation for the professional setting.
- Build and showcase work examples in a professional portfolio.

UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education

Pharmacy Technician - Advanced

FY2023 / 17 Credits (600 Clock-Hours)

Pharmacy Technician - Advanced

Institutions: Bridgerland, Davis, Dixie, Ogden-Weber, Salt Lake, Southwest, Uintah Basin, USU-Eastern

Certificate of Program Completion (Catalog Year: 2023,17 Credits/600 Clock-Hours Required, CIP: 51.0805)

Core (13 Credits/480 Clock-Hours)		**Credits**	**Clock-Hours**
TEPT 1010	Introduction to Pharmacy	3	90
TEPT 1100	Community Pharmacy Practice	3	90
TEPT 1110	Institutional Pharmacy Practice	3	90
TEPT 1900	Pharmacy Technician Externship	4	210
Electives (4 Credits/120 Clock-Hours)			
Bridgerland Technical College			
TEPT 1200	Advanced Community Pharmacy Practice	1	30
TEPT 1210	Advanced Institutional Pharmacy Practice	3	90
Davis Technical College			
TEPT 1500	Pharmacy Technician Math	1	30
WKSK 1400	Workplace Success	2	60
WKSK 1500	Job Seeking Skills	1	30
Dixie Technical College			
TEPT 1510	Pharmacy Calculations	1	30
TEPT 1520	Medications	2	60
TEPT 1600	National Exam and Licensure Preparation	1	30
Ogden-Weber Technical College			
TEPT 1520	Pharmacy Calculations	2	60
TEPT 1300	Clinical Pharmacology	2	60
Salt Lake Community College			
TEPT 1310	Advanced Pharmacy Technology Skills	4	120
Southwest Technical College			
TEPT 1520	Pharmacy Calculations	2	60
TEPT 1610	Pharmacy Review	1	30
TEPT 1220	Sterile Compounding	1	30
Uintah Basin Technical College			
TEPT 1230	Extemporaneous, Nonsterile Compounding	2	60
TEPT 1240	Sterile & Hazardous Compounding	2	60
Utah State University			
TEPT 1320	Pharmacology	3	90
TEPT 1620	National Exam and State Licensure Readiness	1	30

Utah System of Higher Education

Pharmacy Technician - Advanced
FY2023 / 17 Credits (600 Clock-Hours)

PROGRAM DESCRIPTION

The Pharmacy Technician program prepares students to support pharmacists by performing a wide range of practice-related duties for community, institutional, compounding, long-term care, mail-order, and other pharmaceutical settings. Students learn the most common medications, calculate dosages, process prescriptions, bill third-party insurance, learn aseptic techniques, and prepare sterile and non-sterile compounded medications. Students receive extensive hands-on training in the lab area using advanced pharmacy technology.

Objectives:

- Practice personal and interpersonal skills needed in various pharmacy settings.
- Demonstrate the pharmacy technician's role in the medication-use process and wellness promotion.
- Recall the most utilized drugs by brand and generic name, indications, and interactions.
- Solve pharmacy mathematical calculations.
- Prepare sterile and non-sterile compounds.

COURSE DESCRIPTIONS

Introduction to Pharmacy **3 Credit/90 Clock-Hours**

This course serves as an introduction to the pharmacy technician profession, pharmacy technician roles, and the different types of pharmacies within the healthcare delivery system. Students are introduced to state and federal pharmacy practice laws, and the pharmacists' patient care process. Students learn the concepts of pharmacology, medications, and calculations needed to ensure patient safety.

Objectives:

- Compare and contrast the pharmacy technician’s role, pharmacist’s role, and other occupations in the healthcare environment.
- Describe and apply state and federal laws pertaining to pharmacy practice.
- Recognize and apply the pharmacists' patient care process.
- Relate the basic history of pharmacy to today's pharmacy practice.
- Demonstrate the technicians' role in the medication use process.

Community Pharmacy Practice **3 Credits/90 Clock-Hours**

This course teaches the skills necessary for working in community pharmacy settings. Students perform hands-on skill simulations including data entry, prescription processing, billing, fulfillment, inventory management, customer service, and patient safety.

Objectives:

- Identify the most utilized drugs by brand and generic name and their indications.
- Recognize common drug interactions.
- Perform essential duties and functions of a pharmacy technician in a community pharmacy.
- Describe major trends, issues, goals, and initiatives taking place in the pharmacy profession.
- Initiate, verify, and manage billing for complex and/or specialized pharmacy services and goods.
- Apply interpersonal skills, including negotiation skills, conflict resolution, customer service, communicating patient safety, and teamwork.

Institutional Pharmacy Practice **3 Credits/90 Clock-Hours**

This course teaches the skills necessary for working in institutional pharmacy settings. Students will utilize hands-on skill simulations of institutional pharmacy responsibilities including sterile compounding and aseptic technique, hazardous drug management, unit dosing and dispensing, patient safety, and communication with hospital staff.

Objectives:

- Practice and adhere to effective infection control procedures.
- Prepare compounded sterile preparations per applicable, current United States Pharmacopeia chapters.
- Demonstrate knowledge of anatomy, physiology and pharmacology, and terminology relevant to the pharmacy technician's role.
- Perform essential duties and functions of a pharmacy technician in an institutional setting.
- Describe the different methods of drug delivery and administration within institutional settings.
- Practice patient safety and communication with hospital staff.

Pharmacy Technician Externship **4 Credits/210 Clock-Hours**

In this course, students will demonstrate their abilities to function as a pharmacy technician in industry settings. This experience takes place under the supervision of a pharmacist or an experienced pharmacy technician, and includes a combination of skills-practice and evaluation.

Objectives:

- Assist pharmacists in collecting, organizing, and recording patient information.
- Maintain pharmacy facilities and equipment.
- Receive, process, and prepare prescriptions/medication orders.
- Demonstrate a respectful and professional attitude when interacting with diverse patient populations and medical professionals.
- Participate in pharmacy compliance with professional standards and relevant legal, regulatory, formulary, contractual, and safety requirements.

NON-ALIGNED (ELECTIVE) COURSE DESCRIPTIONS

Bridgerland Technical College

Advanced Institutional Pharmacy **3 Credit/90 Clock-Hours**

This course teaches advanced skills necessary in institutional pharmacy settings. Students will demonstrate aseptic technique, advanced sterile compounding, and hazardous sterile compounding.

Objectives:

- Analyze medication orders and process prescription labels for sterile compounded medications.
- Utilize mathematical calculations required for sterile compounding.
- Practice and master aseptic technique.
- Prepare sterile and hazardous sterile compounds.
- Demonstrate safety procedures in accordance with the United States Pharmacopeia (USP) chapters 797 and 800.

Advanced Community Pharmacy Practices **1 Credit/30 Clock-Hours**

This course teaches advanced skills utilized in a community pharmacy. Students will perform hands-on skill simulations of non-sterile compounds, demonstrate proper use of non-sterile compounding

equipment, administer immunizations, perform point-of-care testing, and follow proper documentation protocols.

Objectives:

- Solve mathematical calculations pertaining to non-sterile compounding.
- Prepare medications requiring simple, moderate, and high-level non-sterile compounding as defined by United States Pharmacopeia (USP).
- Process, handle, and demonstrate immunization administration techniques.
- Explain and perform point-of-care testing.
- Demonstrate ability to effectively and professionally communicate with diverse patient populations.

Davis Technical College

Pharmacy Technician Math **1 Credit/30 Clock-Hours**

Pharmacy Technician Math examines basic mathematic skills and math concepts related to the pharmacy industry. During this course, you will study systems of measurement, formulas, intravenous flow rates, and other calculations used in the pharmacy industry. Upon completing this course, students will have a strong foundation in required mathematics and an introduction to the terminology and abbreviations used in pharmaceutical occupations.

Objectives:

- Learn and apply basic math skills, including proportions, formulas, and conversions
- Calculate oral doses using ratio-proportion, formulas, and dimensional analysis
- Compute and/or use percentage of error
- Identify the elements of a prescription order and a typical drug label
- Use allegation and other formulas to change a product's concentration by adding diluents or mixing stock solutions
- Calculate intravenous flow rates
- Compute discounts and markups

Workplace Success **2 Credit/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

Dixie Technical College

Pharmacy Calculations **1 Credit/30 Clock-Hours**

This course teaches students the mathematical calculations necessary for working in a variety of pharmacy settings. Students will learn entry level and advanced level concepts, conversions, and calculations. Using practical applications and a hands-on approach, students will be prepared to enter externships, pass the national exam, and enter the workforce with confidence to provide safe and effective care.

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

Medications **2 Credit/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:

- Recognize medications by either brand or generic name
- Describe the DEA schedules and medications that fall into each schedule and why
- Identify different illnesses, diseases, and the class of drugs required to treat them
- Explore complementary and alternative drug therapies
- Identify medications that require special handling, documentation, and patient instruction

National Exam and Licensure Prep **1 Credit/30 Clock-Hours**

In this course, students will complete practice exams, quizzes and take another look at pharmacy law. Students will receive feedback from instructors on areas to improve as well as areas in which they excel

to gain confidence to sit for either the PTCB or the ExCPT. Students will be instructed on how to apply for and maintain their national certification and licensure.

Objectives:

- Apply the knowledge gained throughout the Pharmacy Technician Program
- Compare the licensure requirements between states
- Define certification and licensure
- Identify the requirements regarding continued education hours

Ogden-Weber Technical College

Pharmacy Calculations **2 Credits/60 Clock-Hours**

This course builds upon basic mathematic skills to include the application of mathematics in the pharmacy setting. This course will cover calculations for medication dosing and day supplies in both community and institutional pharmacies. Common business and inventory calculations used in the pharmacy will also be included in this course.

Objectives:

- Apply mathematics to calculations most often used in the pharmacy setting
- Describe common household and metric conversions
- Calculate correct dosages and days supply for medications
- Explain key concepts such as time, temperature, volume, and weight
- Perform advanced calculations for compounded drug products and sterile preparations

Clinical Pharmacology **2 Credits/60 Clock-Hours**

This course covers pharmacy terminology, SIG code, dosage forms, and abbreviations for successful transcription of prescriptions in the pharmacy setting. This course will link drug therapeutic classes with the affected body systems and medical conditions and include common drug interactions, contraindications and side effects. Drug reference materials and the drug approval process will also be covered.

Objectives:

- Memorize the most common drugs by brand name, generic, and therapeutic class.
- Describe how medications are developed and approved.
- Identify the different drug dosage forms and routes of administration.
- Interpret pharmacy SIG code and common pharmacy abbreviations.

Salt Lake Community College

Advanced Pharmacy Technician Skills **4 Credit/120 Clock-Hours**

This course explores technician roles in sterile compounding, diversion, supply chain management, medication history, therapy management and leadership. Course teaches technical skills needed to support career progression. Students will demonstrate skill mastery through case studies, critical thinking exercises and routine skill assessment.

Objectives:

- Describe the expanding roles training, and skill open to the pharmacy technician.
- Demonstrate interdisciplinary leadership and team management skills in the pharmacy setting.

- Monitor patient medication compliance, education, and tracking to assist the pharmacist.
- Demonstrate principles of sterile and hazardous material compounding with vials, ampules, small and large volume parenterals and automated compounding equipment.
- Outline points of a controlled substance diversion and tracking system.
- Demonstrate techniques for receipt, storage, handling, delivery, and disposal of hazardous drugs, materials, and ingredients.

Southwest Technical College

Pharmacy Calculations — 2 Credits/60 Clock-Hours

This course builds upon basic mathematic skills to include the application of mathematics in the pharmacy setting. This course will cover calculations for medication dosing and day supplies in both community and institutional pharmacies. Common business and inventory calculations used in the pharmacy will also be included in this course.

Objectives:

- Apply mathematics to calculations most often used in the pharmacy setting
- Describe common household and metric conversions
- Calculate correct dosages and days supply for medications
- Explain key concepts such as time, temperature, volume, and weight
- Perform advanced calculations for compounded drug products and sterile preparations

Pharmacy Review — 1 Credit/30 Clock-Hours

Pharmacy Review will have students review material from Intro to Pharmacy, Community Pharmacy Practice, Pharmacy Calculations, and Institutional Pharmacy Practice. It will prepare students to take their national exams and be ready for their future employment.

Objectives:

- Demonstrate a foundational understanding of retail, hospital, and compounding pharmacies.
- Perform basic interactions between technicians, healthcare professionals, and patients.
- Perform calculations and procedures related to dosages, dilutions, days supply, and the prescription filling process.

Sterile Compounding — 1 Credit/30 Clock-Hours

Sterile Compounding will teach students how to operate in a sterile environment and keep solutions, dilutions, and medications contaminant free. Students will be shown how to use and clean various compounding equipment.

Objectives:

- Explain the functions and limitations of compounding equipment.
- Summarize common contaminations and how to prevent them.
- Employ the basics of a cleanroom.

Uintah Basin Technical College

Extemporaneous, Nonsterile Compounding **2 Credit/60 Clock-Hours**

This course teaches the skills necessary for working in nonsterile compounding to prepare medications strengths, combinations, or dosage formulations that are not commercially available. Students will utilize hands-on skill simulations of Nonsterile compounding, responsibilities including following each step in the compounding process as outlined in the Master Formulation Record; and USP Standard. The students will utilize instruments for weighing and measuring. Extemporaneous compounds commonly include a digital scale or a analytical two-pan balance, pharmaceutical weights, forceps, spatulas, weighing papers, ointment slab, parchment paper, mortar and pestle, graduated cylinders; and pipettes among others.

Objectives:

- Define the terms compounding, extemporaneous, nonsterile, sterile, and anticipatory compounding
- Discuss the distinction between a manufactured drug and a compounded nonsterile medication, and preparation and purpose of USP Chapter 795
- Explain the differing techniques by which solutions, suspensions, ointment, creams, powders, suppositories, rapid dissolving tablets, troches and capsules are prepared
- Perform essential duties and functions of a pharmacy technician in preparing solutions, suspensions, ointment, creams, powders, suppositories, rapid dissolving tablets, troches and capsules are prepared
- Explain the final compounding steps including calculating beyond-use-dating, labeling, offering patient education; doing clean-up, and equipment maintenance.
- Practice patient safety and communication with staff.
- Performing compounding steps including calculating beyond-use-dating, labeling, offering patient education; doing clean-up, and equipment maintenance.

Sterile and Hazardous Compounding **2 Credit/60 Clock-Hours**

This course teaches the skills necessary for working in sterile and hazardous compounding to prepare medications for intravenous (IV) use. Students will utilize hands-on skill simulations of sterile and hazardous compounding responsibilities including following each step in the compounding process as outlined in USP Compounding 797 Sterile Compounding, and USP Chapter 800 Hazardous Compounding. The students will explain general principles in sterile and hazardous compounding with vials ampules and automated sterile compounding equipment. Paraphrase the handling of premade parental products, including vial-and-bag systems and frozen intravenous sterile solutions. Extemporaneous compounds commonly include a digital scale or a analytical two-pan balance, pharmaceutical weights, forceps, spatulas, weighing papers, ointment slab, parchment paper, mortar and pestle, graduated cylinders, and pipettes among others.

Objectives:

- Define the terms compounding, extemporaneous, nonsterile, sterile, hazardous, nuclear, and anticipatory compounding
- Define the sterile compounding process, which follows USP Chapter 797
- Define hazardous drugs and the categories of risk of exposure and the different levels of primary engineering controls for compounding them, according to USP Chapter 800
- Explain the differing for receiving, storing, handling, delivering, and disposing of hazardous drugs and ingredients, and the function and contents of a spill kit.
- Perform essential duties and functions of a pharmacy technician in preparing sterile and Hazardous medications.

- Explain the final compounding steps including calculating beyond-use-dating, labeling, and doing clean-up and equipment maintenance.
- Practice patient safety and communication with staff.
- Discuss the role of USP's evolving standards in Nuclear Pharmaceutical compounding

Utah State University – Eastern (Course information being reviewed by USU-E ISD)

Pharmacology **3 Credit/90 Clock-Hours**

This course teaches students to integrate pharmacology knowledge into clinical practice, manage medication safety issues in patient care, and find needed additional drug information or legal requirements of medication prescribing and use. Information is conveyed through lecture and multimedia presentations.

Objectives:

- Describe principles of general chemistry, cell biology, and human physiology and pathology
- Demonstrate the ability to utilize online medication resources
- Demonstrate knowledge of the brand and generic names and therapeutic category for the top 200 most commonly prescribed medications in the U.S.
- Practice using drug references to obtain information on medications to be administered, prescribed, or otherwise used in practice settings.
- Demonstrate understanding of the core principles of pharmacology, and the characteristics, use, precautions of key representative medications from all major therapeutic categories.

National Exam and State Licensure Readiness **1 Credit/30 Clock-Hours**

This course prepares students for the National Exam and Utah State Licensure exam through a series of practice exams and quizzes based on examination content blueprints. The exams will allow the student and instructor to analyze areas of likely success and areas that may need further review.

Objectives:

- Gain familiarity with common test taking mistakes and develop strategies to overcome them
- Utilize knowledge learned in the Pharmacy Technician program to successfully identify the correct information on the National Exam and State Licensure exam
- Demonstrate knowledge of program accreditation outcome requirements including sitting for and passing licensure exam
- Describe legal requirements of medication prescribing and use
- Describe the requirements for obtaining and maintaining licensure and certification

UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education

Commercial Driver's License Class A
FY2023 / 6 Credits (180 Clock-Hours)

Commercial Driver's License Class A			
Institutions: Bridgerland, Dixie, Mountainland, Salt Lake, Southwest, Tooele, Uintah Basin, USU-Eastern			
Certificate of Program Completion (Catalog Year: 2023, 6 Credits/180 Clock-Hours Required, CIP: 49.0205)			
Core (6 Credits/180 Clock-Hours)		**Credits**	**Clock-Hours**
TECD 1100	Commercial Driver's License Class A	6	180

PROGRAM DESCRIPTION

The Commercial Driver's License Class A (CDL) program prepares students with the skills and knowledge they need to join the professional driving industry. This course fulfills Entry Level Driver Training requirements for CDL training in accordance with Part 380 of the Federal Motor Carriers Safety Regulations.

Objectives:

- Demonstrate basic truck operating procedures
- Demonstrate safe operating procedures
- Learn and practice advanced operating procedures
- Practice vehicle inspections (pre/post-trip)
- Review non-driving Activities

COURSE DESCRIPTIONS

Commercial Driver's License Class A **6 Credits/180 Clock-Hours**

The Commercial Drivers' License Class A Course prepares students in classroom theory, backing skills, and entry-level driving skills including behind the wheel range and public road practice.

Students demonstrate proficiency and competence in accordance with Federal/ State regulations, and college requirements:

- Demonstrate basic truck operating procedures
- Demonstrate safe operating procedures
- Learn and practice advanced operating procedures
- Practice vehicle inspections (pre/post-trip)
- Review non-driving Activities

UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education

Commercial Trucking and Transportation
(USU-E Exception Proposal)
FY2023 / 16 Credits (480 Clock-Hours)

Commercial Trucking and Transportation (USU-E Exception Proposal)			
Institutions: USU-Eastern			
Certificate of Program Completion (Catalog Year: 2023, 16 Credits/480 Clock-Hours Required, CIP: 49.0205)			
Core (12 Credits/360 Clock-Hours)		**Credits**	**Clock-Hours**
TECD 1100	Commercial Driver's License Class A	6	180
TECD 1110	Advanced Trailering Techniques	2	60
TECD 1120	Dump and Trailering	2	60
TECD 1130	Maintenance	2	60
Electives (4 Credits/120 Clock-Hours)		**Credits**	**Clock-Hours**
TECD 1200	Advanced Driving Techniques	1-3	30-90
TECD 1210	Hazmat for CDL	1	30
TECD 1220	School Bus/Passenger Bus	2	60
TECD 1230	Industry Safety Certifications	2	60
TECD 1240	Air Brake Adjustment Certification	1	30

UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education

Commercial Trucking and Transportation
(USU-E Exception Proposal)
FY2023 / 16 Credits (480 Clock-Hours)

PROGRAM DESCRIPTION

The Commercial Driver's License Class A (CDL) program prepares students with the skills and knowledge they need to join the professional driving industry. This course fulfills Entry Level Driver Training requirements for CDL training in accordance with Part 380 of the Federal Motor Carriers Safety Regulations.

Objectives:

- Demonstrate basic truck operating procedures
- Demonstrate safe operating procedures
- Learn and practice advanced operating procedures
- Practice vehicle inspections (pre/post-trip)
- Review non-driving Activities

COURSE DESCRIPTIONS

Commercial Driver's License Class A — 6 Credits/180 Clock-Hours

The Commercial Drivers' License Class A Course prepares students in classroom theory, backing skills, and entry-level driving skills including behind the wheel range and public road practice.

Students demonstrate proficiency and competence in accordance with Federal/ State regulations, and college requirements:

- Demonstrate basic truck operating procedures
- Demonstrate safe operating procedures
- Learn and practice advanced operating procedures
- Practice vehicle inspections (pre/post-trip)
- Review non-driving Activities

Advanced Trailering Techniques — 2 Credit/60 Clock-Hours

This course will provide instruction on advanced or specialized industry trailering techniques.

Objectives:

- Demonstrate proper procedure coupling of specialized trailers
- Properly conduct a pre-inspection and post inspection of specialized trailers
- Demonstrate safe operation of dump and/or other specialized trailers

Dump and Trailering — 2 Credit/60 Clock-Hours

This course provides instruction on safe operation of dump trucks and equipment hauling trailer.

Objectives:

- Demonstrate proper procedure for operating PTO
- Demonstrate safe and proper procedure for dump trucks
- Demonstrate safe securement of heavy equipment onto drop deck or lowboy trailer
- Demonstrate proper and safe use of load securement devices relating to cargo

Maintenance **2 Credit/60 Clock-Hours**

This course provides instruction on semi-truck and trailer maintenance

Objectives:

- Demonstrate proper lubrication, fluid maintenance, tire and wheel maintenance.
- Demonstrate safe basic troubleshooting of semi-truck and trailer components in the field.

NON-ALIGNED (ELECTIVE) COURSE DESCRIPTIONS

Advanced Driving Techniques **1-3 Credit/30-90 Clock-Hours**

This course provides instruction on advanced driving situations through behind the wheel and simulator technology training.

Objectives:

- Exhibit safe operation of loaded and/or empty semi-truck and trailer on local area/industry specific driving challenges.
- Display competency with mountainous roads, ability to drive in extreme driving situations, nighttime driving, skid recovery, emergency situations, safe handling, road hazard perception and distracted drivers

Hazmat for CDL **1 Credit/30 Clock-Hours**

This course provides instruction on Commercial Driver License Hazardous Materials Endorsement

Objectives:

- Successfully pass TSA Background check
- Demonstrate knowledge and successfully pass off Entry Level Driver Training (ELDT) and the Utah Driver License Exam for Hazardous Materials Endorsement

School Bus/Passenger Bus **2 Credit/60Clock-Hours**

This course provides instruction on Commercial Driver License School and Passenger Bus Endorsement

Objectives:

- Demonstrate knowledge and successfully pass off Entry Level Driver Training
- Demonstrate proper pre and post trip inspection on School Bus and Passenger Bus
- Demonstrate proper inspection of student and passenger specific items on the school bus
- Demonstrate proper operation of school and passenger bus
- Demonstrate proper unloading and loading procedures for students
- Pass the required state written and practical exams to obtain the endorsement for School Bus and Passenger Bus

Industry Safety Certifications **2 Credits/60 Clock-Hours**

This course will review and prepare students for 60-hours of industry safety certifications.

Objectives:

- Pass the industry certification for OSHA 10
- Pass the industry certification for MSHA 32 H2s
- Pass the industry certification for fire extinguishers
- Pass the industry certification for CPR/First Aid
- Pass other relevant industry certification exams as necessary for local industry needs

Air Brake Adjustment Certification **1 Credits/30 Clock-Hours**

This course will review and prepare students for air brake adjustment certification and inspection within the provision of the Federal Motor Carrier Safety Administration (FMCSA)

Objectives:

- Pass the Air Brake Adjustment and Inspection Certification

UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education

Heavy Equipment Operator
FY2023 / 10 Credits (300 Clock-Hours)

Heavy Equipment Operator			
Institutions: Bridgerland, USU-Eastern			
Certificate of Program Completion (Catalog Year: 2023, 10 Credits/300 Clock-Hours Required, CIP: 49.0202)			
Core (10 Credits/300 Clock-Hours)		**Credits**	**Clock-Hours**
TEHE 1010	Heavy Equipment Introduction/Basics	2	60
TEHE 1050	Skid Steer/Compact Loader Operation	2	60
TEHE 1100	Hydraulic Excavator Operation	2	60
TEHE 1150	Backhoe (Tractor Loader Backhoe) Operation	2	60
TEHE 1200	Front End Loader Operation	2	60

Utah System of Higher Education

Heavy Equipment Operator
FY2023 / 10 Credits (300 Clock-Hours)

PROGRAM DESCRIPTION

The Heavy Equipment Operator program introduces students to the heavy equipment industry and basic equipment operations. It also blends classroom time, industry related safety and hands on training for a well-rounded learning experience. Topics include OSHA construction safety, orientation to the trade, identification of heavy equipment, basic operational techniques, introduction to earthmoving, rough grading, and finish grading.

Objectives:

- At the completion of the course students should demonstrate entry level criteria related to overall safety awareness in the heavy equipment operator job fields
- Students should meet minimum requirements to safely and effectively perform fundamental operating techniques used in industry
- Students should be capable of performing a machine pre-operation inspection and know the proper procedures for tagging out and addressing maintenance or repair needs
- Demonstrate knowledge of the job site awareness and have the ability to seek information and/or communicate needs and/or concerns
- Meet areas industry needs by providing trained and machine safety certified entry-level operators which relate to the service area of the program

COURSE DESCRIPTIONS

Heavy Equipment Operator Introduction/Basics **2 Credit/60 Clock-Hours**

This course will provide an overview of Safety, Blue Stakes, equipment operation, basic familiarization with equipment utilization/use. The course will also include workplace communication and awareness.

Objectives:

- Explain the fundamentals of a safe work environment
- Demonstrate safety procedures and familiarization with equipment use
- Demonstrate proper workplace communication and awareness of the work environment

Skid Steer/Compact Loader Operation **2 Credit/60 Clock-Hours**

This course will cover the fundamentals of skid steer and compact loader operation.

Objectives:

- Demonstrate safe start procedures for the equipment
- Properly conduct a pre-operation inspection and related maintenance
- Identify and explain the proper use of the machine and associated control devices
- Demonstrate basic operating techniques

Hydraulic Excavator Operation **2 Credits/60 Clock-Hours**

This course will cover safety related to and the fundamental operation of hydraulic excavators.

Objectives:

- Demonstrate safe start procedures for the equipment
- Properly conduct a pre-operation inspection and related maintenance
- Identify and explain the proper use of the machine and associated control devices
- Demonstrate basic operating techniques

UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education

Heavy Equipment Operator
FY2023 / 10 Credits (300 Clock-Hours)

Backhoe (Tractor Loader Backhoe) Operation — 2 Credits/60 Clock-Hours

This course will cover safety related to and the fundamental operation of tractors, loaders, and backhoes.

Objectives:

- Demonstrate safe start procedures for the equipment
- Properly conduct a pre-operation inspection and related maintenance
- Identify and explain the proper use of the machine and associated control devices
- Demonstrate basic operating techniques

Front End Loader Operation — 2 Credits/60 Clock-Hours

This course will cover safety related to and the fundamental operation of front-end loaders.

Objectives:

- Demonstrate safe start procedures for the equipment
- Properly conduct a pre-operation inspection and related maintenance
- Identify and explain the proper use of the machine and associated control devices
- Demonstrate basic operating techniques

UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education

Heavy Equipment and Earth Moving Operator
(USU-E Exception Proposal)
FY2023 / 16 Credits (480 Clock-Hours)

Heavy Equipment and Earth Moving Operator (USU-E Exception Proposal)			
Institutions: USU-Eastern			
Certificate of Program Completion (Catalog Year: 2023, 16 Credits/480 Clock-Hours Required, CIP: 49.0202)			
Core (16 Credits/480 Clock-Hours)		**Credits**	**Clock-Hours**
TEHE 1010	Heavy Equipment Introduction/Basics	2	60
TEHE 1050	Skid Steer/Compact Loader Operation	2	60
TEHE 1100	Hydraulic Excavator Operation	2	60
TEHE 1150	Backhoe (Tractor Loader Backhoe) Operation	2	60
TEHE 1200	Front End Loader Operation	2	60
TEHE 1250	Dozer Operation	2	60
TEHE 1300	Road Grader Operation	2	60
TEHE 1400	Forklift Operation	1	30
TEHE 1500	Worksite Planning for Operators	1	30

UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education

Heavy Equipment and Earth Moving Operator
(USU-E Exception Proposal)
FY2023 / 16 Credits (480 Clock-Hours)

PROGRAM DESCRIPTION

The Heavy Equipment and Earth Moving Operator program introduces students to the heavy equipment industry and basic equipment operations. It also blends classroom time, industry related safety and hands on training for a well-rounded learning experience. Topics include OSHA construction safety, orientation to the trade, identification of heavy equipment, basic operational techniques, introduction to earthmoving, rough grading, and finish grading.

Objectives:

- At the completion of the course students should demonstrate entry level criteria related to overall safety awareness in the heavy equipment operator job fields
- Students should meet minimum requirements to safely and effectively perform fundamental operating techniques used in industry
- Students should be capable of performing a machine pre-operation inspection and know the proper procedures for tagging out and addressing maintenance or repair needs
- Demonstrate knowledge of the job site awareness and have the ability to seek information and/or communicate needs and/or concerns
- Meet areas industry needs by providing trained and machine safety certified entry-level operators which relate to the service area of the program

COURSE DESCRIPTIONS

Heavy Equipment Operator Introduction/Basics — 2 Credit/60 Clock-Hours

This course will provide an overview of Safety, Blue Stakes, equipment operation, basic familiarization with equipment utilization/use. The course will also include workplace communication and awareness.

Objectives:

- Explain the fundamentals of a safe work environment
- Demonstrate safety procedures and familiarization with equipment use
- Demonstrate proper workplace communication and awareness of the work environment

Skid Steer/Compact Loader Operation — 2 Credit/60 Clock-Hours

This course will cover the fundamentals of skid steer and compact loader operation.

Objectives:

- Demonstrate safe start procedures for the equipment
- Properly conduct a pre-operation inspection and related maintenance
- Identify and explain the proper use of the machine and associated control devices
- Demonstrate basic operating techniques

Hydraulic Excavator Operation — 2 Credits/60 Clock-Hours

This course will cover safety related to and the fundamental operation of hydraulic excavators.

Objectives:

- Demonstrate safe start procedures for the equipment
- Properly conduct a pre-operation inspection and related maintenance
- Identify and explain the proper use of the machine and associated control devices
- Demonstrate basic operating techniques

UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education

Heavy Equipment and Earth Moving Operator
(USU-E Exception Proposal)
FY2023 / 16 Credits (480 Clock-Hours)

Backhoe (Tractor Loader Backhoe) Operation **2 Credits/60 Clock-Hours**

This course will cover safety related to and the fundamental operation of tractors, loaders, and backhoes.

Objectives:

- Demonstrate safe start procedures for the equipment
- Properly conduct a pre-operation inspection and related maintenance
- Identify and explain the proper use of the machine and associated control devices
- Demonstrate basic operating techniques

Front End Loader Operation **2 Credits/60 Clock-Hours**

This course will cover safety related to and the fundamental operation of front-end loaders.

Objectives:

- Demonstrate safe start procedures for the equipment
- Properly conduct a pre-operation inspection and related maintenance
- Identify and explain the proper use of the machine and associated control devices
- Demonstrate basic operating techniques

Dozer Operation **2 Credits/60 Clock-Hours**

This course will cover safety related to and the fundamental operation of dozers.

Objectives:

- Demonstrate safe start procedures for the equipment
- Properly conduct a pre-operation inspection and related maintenance
- Identify and explain the proper use of the machine and associated control devices
- Demonstrate basic operating techniques

Road Grader Operation **2 Credits/60 Clock-Hours**

This course will cover safety related to and the fundamental operation of road graders.

Objectives:

- Demonstrate safe start procedures for the equipment
- Properly conduct a pre-operation inspection and related maintenance
- Identify and explain the proper use of the machine and associated control devices
- Demonstrate basic operating techniques

Forklift Operation **1 Credits/30 Clock-Hours**

This course will cover safety related to and the fundamental operation of forklifts.

Objectives:

- Demonstrate safe start procedures for the equipment
- Properly conduct a pre-operation inspection and related maintenance
- Identify and explain the proper use of the machine and associated control devices
- Demonstrate basic operating techniques

Worksite Planning for Operators **1 Credits/30 Clock-Hours**

This course will cover worksite planning considerations with regard to heavy equipment operation.

UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education

Heavy Equipment and Earth Moving Operator
(USU-E Exception Proposal)
FY2023 / 16 Credits (480 Clock-Hours)

Objectives:

- Recognize the various special or additional circumstances, processes, or procedures associated with heavy equipment worksites
- Identify specific resources to address these special or additional circumstances associated with heavy equipment worksites

UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education

Surgical Technology

FY2023 / 38 Credits (1305 Clock-Hours)

Surgical Technology

Institutions: Davis, Mountainland

Certificate of Program Completion (Catalog Year: 2023, 38 Credits/1305 Clock-Hours Required, CIP: 51.0909)

Core (32 Credits/1125 Clock-Hours)		**Credits**	**Clock-Hours**
TESU 1010	Introduction to Surgical Technology	3	90
TESU 1020	Microbiology and Infection Control	2	60
TESU 1030	Surgical Pharmacology	2	60
TESU 1040	Principles and Practices of Surgical Technology	3	90
TESU 1050	Surgical Procedures I	2	60
TESU 1060	Surgical Procedures II	2	60
TESU 1070	Surgical Procedures III	3	90
TESU 1080	Comprehensive Final Exams	2	60
TESU 1220	Surgical Technology Seminar	2	60
TESU 2900	Surgical Technology Clinical Externship I	4	180
TESU 2910	Surgical Technology Clinical Externship II	4	180
TESU 2920	Surgical Technology Clinical Externship III	3	135
Electives (6 Credits/180 Clock-Hours)			
Davis Technical College			
TESU 1110	Surgical Patient Care	2	60
TESU 1120	Skills Lab I	2	60
TESU 1125	Skills Lab II	2	60
Mountainland Technical College			
TESU 1025	Microbiology and Infection Control II	1	30
TESU 1035	Surgical Pharmacology II	1	30
TESU 1055	Surgical Procedures I Advanced	2	60
TESU 1065	Surgical Procedures II Advanced	2	60

UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education

Surgical Technology
FY2023 / 38 Credits (1305 Clock-Hours)

PROGRAM DESCRIPTION

The Surgical Technology program is designed to prepare you for employment as an entry-level surgical technologist (ST). Students enrolled in this program will focus on the basics of surgical technology, microbiology, infection control, asepsis, and surgical techniques. Students will develop the fundamental concepts and principles necessary to successfully participate as a member of the surgical team.

Objectives:

- Correlate the knowledge of anatomy, physiology, pathophysiology, and microbiology to the roles and responsibilities of a surgical technologist.
- Identify commonly-used equipment, supplies, and medications used in the perioperative setting.
- Apply the principles of asepsis to the perioperative environment.
- Perform competently and safely the skills of an entry-level surgical technologist.
- Use legal, moral, and ethical principles to evaluate the care of a surgical patient.
- Demonstrate the professional attributes of a surgical technologist.
- Pass the national certification examination.

COURSE DESCRIPTIONS

Introduction to Surgical Technology — 3 Credit/90 Clock-Hours

The Introduction to Surgical Technology course will introduce students to the surgical technology profession and will develop the fundamental concepts and principles necessary to successfully participate as a member of the surgical team.

Objectives:

- Analyze relevant medical terminology
- Describe the development of the Surgical Technology profession
- Analyze operating room environment, and identify commonly used equipment and instrumentation
- Evaluate Preoperative, Intraoperative, and Postoperative case preparation
- Assess surgical consents and patient identification
- Explain healthcare organization and describe team member roles and communication
- Discuss medical law and ethics, surgical conscience, and surgical documentation
- Identify and demonstrate the use of surgical attire throughout the perioperative setting

Microbiology and Infection Control — 2 Credit/60 Clock-Hours

The Microbiology and Infection Control course will introduce students to microbiology, infection control, and aseptic principles.

Objectives:

- Correlate infection control in relation to microbiology, the diseases they cause, and procedures used to treat infections
- Analyze anatomy and physiology of microorganisms and the immune system
- Summarize disinfection and decontamination practices
- Identify biopsychosocial needs of the patient and the process of death and dying
- Discuss the history and pioneers of microbiology

Surgical Pharmacology **2 Credit/60 Clock-Hours**

The Surgical Pharmacology course will introduce students to medication used in surgery and anesthesia care.

Objectives:

- Analyze all hazards and disaster preparation
- Differentiate medications and types of anesthesia used in surgery
- Examine anesthesia preparation, administration, and monitoring for the patient
- Calculate medication doses
- Assess fluid and blood loss during surgery
- Prepare and manage medication on the field
- Demonstrate surgical counts
- Identify emergency situations and anesthesia complications

Principles and Practices of Surgical Technology **3 Credit/90 Clock-Hours**

The Principles and Practices of Surgical Technology course will introduce students to wound management, and healing. They will be familiar with perioperative care and the principles of asepsis, and attain stills for patient positioning, prepping, and draping.

Objectives:

- Explain hemostasis, wound healing, and tissue closure
- Outline perioperative case management
- Demonstrate the principles of asepsis
- Analyze patient prepping and positioning
- Differentiate stapling and closure devices

Surgical Procedures I **2 Credit/60 Clock-Hours**

The Surgical Procedures I course will review surgical specialties and differentiate anatomy, physiology, and instrumentation pertaining to the specialty. They will demonstrate several procedures set ups throughout the specialties.

Objectives:

- Discuss select instrumentation, equipment, supplies, and drugs used for the relevant specialties.
- Analyze relevant body systems and related pathophysiology leading to surgeries
- Review relevant medical terminology
- Demonstrate surgical case set ups
- Assess perioperative care and complications

Surgical Procedures II **2 Credit/60 Clock-Hours**

The Surgical Procedures II course will review surgical specialties and differentiate anatomy, physiology, and instrumentation pertaining to the specialty. They will demonstrate several procedures set ups throughout the specialties.

Objectives:

- Discuss select instrumentation, equipment, supplies, and drugs used for the relevant specialties.
- Analyze relevant body systems and related pathophysiology leading to surgeries
- Review relevant medical terminology

- Demonstrate surgical case set ups
- Assess perioperative care and complications

Surgical Procedures III **3 Credit/90 Clock-Hours**

The Surgical Procedures III course will review surgical specialties and differentiate anatomy, physiology, and instrumentation pertaining to the specialty. They will demonstrate several procedures set ups throughout the specialties.

Objectives:

- Discuss select instrumentation, equipment, supplies, and drugs used for the relevant specialties.
- Analyze relevant body systems and related pathophysiology leading to surgeries
- Review relevant medical terminology
- Demonstrate surgical case set ups
- Assess perioperative care and complications

Comprehensive Final Exams **1 Credit/30 Clock-Hours**

The Comprehensive Lab Final course is designed to provide the students with the ability to perform skills learned in the lab and lab competencies in professional medical facilities operating rooms.

Objectives:

- Perform surgical technology principles of aseptic and surgical technique in the professional medical facility operating rooms.
- Demonstrate successfully performance as an operating room team member.
- Explain the process to enter the clinical externship surgical rotation.

Surgical Technology Seminar **2 Credit/60 Clock-Hours**

The Surgical Technology Seminar course will discuss factors associated with making career decisions that can enhance a surgical technologist's professional growth and success. This course will also review competencies learned throughout the program in order to sit for the national certification exam.

Objectives:

- Review for the national certifying exam
- Prepare students for employment

Surgical Technology Clinical Externship I **4 Credit/180 Clock-Hours**

The Surgical Technology Clinical Externship I course will extend the educational experience in the surgical field under the supervision of experienced medical professionals in a clinical setting.

Objectives:

- Practice decontamination standards and procedures for both sterile and non-sterile instrumentation and equipment
- Demonstrate spatial relations within a surgical field
- Implement infection control procedures, hazard communication, and health and safety procedures
- Demonstrate skills for scrubbing, gowning, gloving, and draping
- Integrate employability skills
- Assist with patient care

- Facilitate case preparation

Surgical Technology Clinical Externship II **4 Credit/180 Clock-Hours**

The Surgical Technology Clinical Externship II course will extend the educational experience in the surgical field under the supervision of experienced medical professionals in a clinical setting.

Objectives:

- Practice decontamination standards and procedures for both sterile and non-sterile instrumentation and equipment
- Demonstrate spatial relations within a surgical field
- Implement infection control procedures, hazard communication, and health and safety procedures
- Demonstrate skills for scrubbing, gowning, gloving, and draping
- Integrate employability skills
- Assist with patient care
- Facilitate case preparation

Surgical Technology Clinical Externship III **3 Credit/135 Clock-Hours**

The Surgical Technology Clinical Externship III course will extend the educational experience in the surgical field under the supervision of experienced medical professionals in a clinical setting.

Objectives:

- Practice decontamination standards and procedures for both sterile and non-sterile instrumentation and equipment
- Demonstrate spatial relations within a surgical field
- Implement infection control procedures, hazard communication, and health and safety procedures
- Demonstrate skills for scrubbing, gowning, gloving, and draping
- Integrate employability skills
- Assist with patient care
- Facilitate case preparation

NON-ALIGNED (ELECTIVE) COURSE DESCRIPTIONS

Davis Technical College

Surgical Patient Care **2 Credit/60 Clock-Hours**

This course introduces concepts relevant to caring for patients having surgery. Discussion of patient response to illness and the prospect of undergoing surgical intervention, as well as information for specific population groups will assist the surgical technologist in anticipating special needs and equipment that may be necessary during the surgical procedure. Knowledge and skills utilized both for patient preparation for surgery and care during the procedure will be acquired during this course.

Objectives:

- Identify the rights of health care consumers to receive quality patient care
- Assess the physical, spiritual, and psychological needs of a patient
- Describe preoperative routines

- Demonstrate an understanding of the process used to obtain informed consent for a surgical procedure or treatment
- Discuss the methods and types of documentation used in the operating room
- Describe the identification process for surgical patients
- Discuss, demonstrate, and apply the principles of surgical positioning
- Prepare the operative site for surgery

Skills Lab I **2 Credit/60 Clock-Hours**

The Skills Lab I course introduces students to the basic "hands-on" skills that will be performed during the clinical/externship portion of this program. You will practice each skill set until you are safe, comfortable, and competent. The skillset will then be signed off by the lab instructor.

Objectives:

- Demonstrate the following skills:
  - Open gloving
  - Surgical hand scrub
  - Gowning and gloving (self and others)
  - Opening sterile supplies
  - Creating and maintaining a sterile field
  - Dispensing, handling, and labeling medications and solutions
  - Performing surgical counts
  - Draping the surgical site
  - Basic instrumentation and instrument passing
  - Proper handling and labeling of surgical specimens
  - Moving around a sterile field
  - Critical thinking skills
  - Safety in a sterile surgical setting
  - Skills pass off

Skills Lab II **2 Credit/60 Clock-Hours**

The Skills Lab II course will task the student with combining the basic skills that were learned in the previous lab component with more advanced skills. Students are now in the final preparation phase for entry into the clinical/externship portion of the program and must become competent and efficient with setting up for and anticipating the flow of activities that occur during a surgical procedure.
In order to successfully complete this lab component and be scheduled to begin a clinical externship, students are expected to perform all steps of the final lab skill assessment.

Objectives:

- Demonstrate the following skills:
  - Preoperative case selection and preparation
  - Specialty surgery case set-up
  - Specialty instrumentation
  - Draping for various surgical specialties
  - Intraoperative practice in various surgical specialties
  - Intraoperative case management
  - Postoperative case management and environmental sanitation
  - Advanced sterile technique exercises
  - Critical thinking scenarios

- Timed final skills checklist pass-off

Mountainland Technical College

Microbiology and Infection Control II **1 Credit/30 Clock-Hours**

In the Microbiology and Infection Control II course, students will advance in microbiology and the relationship to the practice of sterile technique and infection control in the operative setting.

Objectives:

- Evaluate the structure and characteristics of different microorganisms
- Analyze the variable for the preparation of instrumentation and equipment for disinfection and the sterilization process
- Analyze the relevant medical terminology
- Identify the General Surgery Major Instruments
- Describe the functions of the Lymphatic, Immune, and Endocrine Systems
- Demonstrate the correct care, handling, and labeling of specimens
- Discuss the various surgical pathologies of each body system and how pathophysiology relates to surgical interventions
- Explain the methods and materials used to create microbial barriers

Surgical Pharmacology II **1 Credit/30 Clock-Hours**

In the Surgical Pharmacology II course, students will advance in the use and identification of medications used in surgery and anesthesia care.

Objectives:

- Assess the side effects and contraindications for the use of various medications and anesthetic drugs
- Demonstrate the principles, measurement, and recording of vital signs
- Discuss how sterile technique is used in relation to anesthesia procedures
- Explain the side effects and contraindications for the use of various medications and anesthetic drugs
- Identify the equipment used during anesthesia administration
- Assess the action uses, and mode of administration of medications and anesthetic agents used in the care of the surgical patient
- Analyze the roles of the surgical technologist and circulator during the administration of anesthesia

Surgical Procedures I Advanced **2 Credit/60 Clock-Hours**

In the Surgical Procedures I Advanced course, students will review surgical skills and differentiate anatomy, physiology, and instrumentation pertaining to the specialties. Students will demonstrate advanced skills and techniques throughout the surgical specialties.

Objectives:

- Demonstrate the advanced isolation skills competencies of an Exploratory Laparotomy surgical procedure
- Demonstrate the skills and competencies of a Total Vaginal Hysterectomy surgical procedure
- Identify the relevant anatomy and physiology
- Review the relevant medical terminology

- Analyze various general surgery, colon resection surgery, ear, nose, and throat, oral maxillofacial, plastic, and reconstructive surgery
- Identify various instrumentation related to the surgical procedures

Surgical Procedures II Advanced **2 Credit/60 Clock-Hours**

In the Surgical Procedures II Advanced course, students will review surgical skills and differentiate anatomy, physiology, and instrumentation pertaining to the specialties. Students will demonstrate advanced skills and techniques related to trauma throughout the surgical specialties.

Objectives:

- Demonstrate the skills competencies of an Orthopedic surgical procedure
- Identify relevant anatomy and physiology

UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education

Surgical Technician (UBTech Exception Proposal)
FY2023 / 25 Credits (900 Clock-Hours)

Surgical Technician (UBTech Exception Proposal)			
Institutions: Uintah Basin			
Certificate of Program Completion (Catalog Year: 2023, 25 Credits/900 Clock-Hours Required, CIP: 51.0909)			
Core (25 Credits/900 Clock-Hours)		**Credits**	**Clock-Hours**
TESU 1015	Introduction to Surgical Technology	2	60
TESU 1021	Microbiology and Infection Control	1	30
TESU1030	Surgical Pharmacology	2	60
TESU 1040	Principles and Practices of Surgical Technology	3	90
TESU 1050	Surgical Procedures I	2	60
TESU 1060	Surgical Procedures II	2	60
TESU 1070	Surgical Procedures III	3	90
TESU 1221	Surgical Technology Seminar	1	30
TESU 2900	Surgical Technology Clinical Externship I	4	180
TESU 2910	Surgical Technology Clinical Externship II	4	180
TESU 2921	Surgical Technology Clinical Externship III	1	60

UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education

Surgical Technician (UBTech Exception Proposal)
FY2023 / 25 Credits (900 Clock-Hours)

PROGRAM DESCRIPTION

The Surgical Technician program is designed to prepare you for employment as an entry-level surgical technologist (ST). Students enrolled in this program will focus on the basics of surgical technology, microbiology, infection control, asepsis, and surgical techniques. Students will develop the fundamental concepts and principles necessary to successfully participate as a member of the surgical team.

Objectives:

- Correlate the knowledge of anatomy, physiology, pathophysiology, and microbiology to the roles and responsibilities of a surgical technologist.
- Identify commonly-used equipment, supplies, and medications used in the perioperative setting.
- Apply the principles of asepsis to the perioperative environment.
- Perform competently and safely the skills of an entry-level surgical technologist.
- Use legal, moral, and ethical principles to evaluate the care of a surgical patient.
- Demonstrate the professional attributes of a surgical technologist.
- Pass the national certification examination.

COURSE DESCRIPTIONS

Introduction to Surgical Technology — 2 Credit/60 Clock-Hours

The Introduction to Surgical Technology course will introduce students to the surgical technology profession and will develop the fundamental concepts and principles necessary to successfully participate as a member of the surgical team.

Objectives:

- Analyze relevant medical terminology
- Describe the development of the Surgical Technology profession
- Analyze operating room environment, and identify commonly used equipment and instrumentation
- Evaluate Preoperative, Intraoperative, and Postoperative case preparation
- Assess surgical consents and patient identification
- Explain healthcare organization and describe team member roles and communication
- Discuss medical law and ethics, surgical conscience, and surgical documentation
- Identify and demonstrate the use of surgical attire throughout the perioperative setting

Microbiology and Infection Control — 1 Credit/30 Clock-Hours

The Microbiology and Infection Control course will introduce students to microbiology, infection control, and aseptic principles.

Objectives:

- Correlate infection control in relation to microbiology, the diseases they cause, and procedures used to treat infections
- Analyze anatomy and physiology of microorganisms and the immune system
- Summarize disinfection and decontamination practices
- Identify biopsychosocial needs of the patient and the process of death and dying
- Discuss the history and pioneers of microbiology

Surgical Pharmacology **2 Credit/60 Clock-Hours**

The Surgical Pharmacology course will introduce students to medication used in surgery and anesthesia care.

Objectives:

- Analyze all hazards and disaster preparation
- Differentiate medications and types of anesthesia used in surgery
- Examine anesthesia preparation, administration, and monitoring for the patient
- Calculate medication doses
- Assess fluid and blood loss during surgery
- Prepare and manage medication on the field
- Demonstrate surgical counts
- Identify emergency situations and anesthesia complications

Principles and Practices of Surgical Technology **3 Credit/90 Clock-Hours**

The Principles and Practices of Surgical Technology course will introduce students to wound management, and healing. They will be familiar with perioperative care and the principles of asepsis, and attain stills for patient positioning, prepping, and draping.

Objectives:

- Explain hemostasis, wound healing, and tissue closure
- Outline perioperative case management
- Demonstrate the principles of asepsis
- Analyze patient prepping and positioning
- Differentiate stapling and closure devices

Surgical Procedures I **2 Credit/60 Clock-Hours**

The Surgical Procedures I course will review surgical specialties and differentiate anatomy, physiology, and instrumentation pertaining to the specialty. They will demonstrate several procedures set ups throughout the specialties.

Objectives:

- Discuss select instrumentation, equipment, supplies, and drugs used for the relevant specialties.
- Analyze relevant body systems and related pathophysiology leading to surgeries
- Review relevant medical terminology
- Demonstrate surgical case set ups
- Assess perioperative care and complications

Surgical Procedures II **2 Credit/60 Clock-Hours**

The Surgical Procedures II course will review surgical specialties and differentiate anatomy, physiology, and instrumentation pertaining to the specialty. They will demonstrate several procedures set ups throughout the specialties.

Objectives:

- Discuss select instrumentation, equipment, supplies, and drugs used for the relevant specialties.
- Analyze relevant body systems and related pathophysiology leading to surgeries

- Review relevant medical terminology
- Demonstrate surgical case set ups
- Assess perioperative care and complications

Surgical Procedures III **3 Credit/90 Clock-Hours**

The Surgical Procedures III course will review surgical specialties and differentiate anatomy, physiology, and instrumentation pertaining to the specialty. They will demonstrate several procedures set ups throughout the specialties.

Objectives:

- Discuss select instrumentation, equipment, supplies, and drugs used for the relevant specialties.
- Analyze relevant body systems and related pathophysiology leading to surgeries
- Review relevant medical terminology
- Demonstrate surgical case set ups
- Assess perioperative care and complications

Surgical Technology Seminar **1 Credit/30 Clock-Hours**

The Surgical Technology Seminar course will discuss factors associated with making career decisions that can enhance a surgical technologist's professional growth and success. This course will also review competencies learned throughout the program in order to sit for the national certification exam.

Objectives:

- Review for the national certifying exam
- Prepare students for employment

Surgical Technology Clinical Externship I **4 Credit/180 Clock-Hours**

The Surgical Technology Clinical Externship I course will extend the educational experience in the surgical field under the supervision of experienced medical professionals in a clinical setting.

Objectives:

- Practice decontamination standards and procedures for both sterile and non-sterile instrumentation and equipment
- Demonstrate spatial relations within a surgical field
- Implement infection control procedures, hazard communication, and health and safety procedures
- Demonstrate skills for scrubbing, gowning, gloving, and draping
- Integrate employability skills
- Assist with patient care
- Facilitate case preparation

Surgical Technology Clinical Externship II **4 Credit/180 Clock-Hours**

The Surgical Technology Clinical Externship II course will extend the educational experience in the surgical field under the supervision of experienced medical professionals in a clinical setting.

Objectives:

- Practice decontamination standards and procedures for both sterile and non-sterile instrumentation and equipment

- Demonstrate spatial relations within a surgical field
- Implement infection control procedures, hazard communication, and health and safety procedures
- Demonstrate skills for scrubbing, gowning, gloving, and draping
- Integrate employability skills
- Assist with patient care
- Facilitate case preparation

Surgical Technology Clinical Externship III **1 Credit/60 Clock-Hours**

The Surgical Technology Clinical Externship III course will extend the educational experience in the surgical field under the supervision of experienced medical professionals in a clinical setting.

Objectives:

- Practice decontamination standards and procedures for both sterile and non-sterile instrumentation and equipment
- Demonstrate spatial relations within a surgical field
- Implement infection control procedures, hazard communication, and health and safety procedures
- Demonstrate skills for scrubbing, gowning, gloving, and draping
- Integrate employability skills
- Assist with patient care
- Facilitate case preparation

UTAH SYSTEM OF HIGHER EDUCATION

Utah System of Higher Education

Paramedic

FY2023 / 33 Credits (1170 Clock-Hours)

Paramedic			
Institutions: Bridgerland			
Certificate of Program Completion (Catalog Year: 2023, 33 Credits/1170 Clock-Hours Required, CIP: 51.0904)			
Core 18 Credits/1170 Clock-Hours)		**Credits**	**Clock-Hours**
EMSP 1111	Paramedic Fundamentals	5	150
EMSP 1111	Paramedic Fundamentals Lab	4	120
EMSP 1121	Fundamental Field Externship	2	90
EMSP 1130	Fundamental Clinical Externship	2	90
EMSP 1501	Advanced Emergency Care	6	180
EMSP 1511	Advanced Skills Lab	3	90
EMSP 1521	Advanced Field Externship	2	90
EMSP 1531	Advanced Clinical Externship	2	90
EMSP 2120	Capstone NREMT Exam Prep	3	90
EMSP 2130	Capstone Field Externship	4	180
	TOTALS	**33**	**1170**

Utah System of Higher Education

Paramedic

FY2023 / 33 Credits (1170 Clock-Hours)

PROGRAM DESCRIPTION

The Paramedic program provides students with the training necessary to become licensed as Paramedics through the state of Utah and the National Registry of Emergency Medical Technicians. The program partners with local fire departments and hospitals to help students develop strong critical thinking and medical skills. Hands-on instruction, laboratory simulation, and experiential clinical practice give students the confidence to handle a variety of prehospital care environments and emergency care situations.

Objectives:

- Demonstrate patient assessment of the medical and trauma patient.
- Identify and apply cognitive, psychomotor, and affective skills in a simulated out-of-hospital environment.
- Understand basic pharmacology and provide IV medications/administration.
- Perform advanced airway management and ventilation.
- Treat injuries and illnesses safely in pediatric, adult, and geriatric patients.
- Treat injuries and illnesses safely using the entire spectrum of paramedic protocols under the supervision of an approved preceptor.
- Work cooperatively with professionals in the field

COURSE DESCRIPTIONS

Paramedic Fundamentals **5 Credits/150 Clock-Hours**

The Paramedic Fundamentals course integrates topics such as EMS communications, the safety/well-being of the paramedic, medical/legal responsibilities, ethical issues, and research in EMS. Students learn pharmacology, pathophysiology, history taking, ventilatory management, suctioning, IV therapy, sterile techniques, medications/administration, medical terminology, cardiac emergency treatment, and patient assessment. The course reinforces concepts and clinical skills students previously learned at the EMT level. It introduces advanced concepts in EMS Systems, illness and injury prevention, medical-legal issues, anatomy, physiology, pathophysiology, and childbirth.

Objectives:

- Discriminate between normal and abnormal anatomy and physiology, and distinguish these characteristics as they relate to pathophysiology.
- Interpret complex medical, legal, and ethical issues in EMS.
- Outline factors that impact the health and wellness of the paramedic and correlate these with behaviors that promote a culture of safety.
- Explain variations in the assessment and management of the Adult and Pediatric airway.
- Explain fundamental principles of public health, health promotion, and illness and injury prevention.
- Identify cardiac patient electrophysiology, basic monitoring techniques and ECG rhythms recognition
- Assess and treat patients who may be experiencing a cardiovascular disorder.

Paramedic Fundamentals Lab **4 Credits/120 Clock-Hours**

The Paramedic Fundamentals Lab course provides practical learning of skills and National Registry competencies including comprehensive patient assessment of adult and pediatric patients, history taking, medical assessment, advanced cardiac life support, advanced airway management, CPAP, ventilator use, IV insertion, medication administration, and IO insertion. Students demonstrate competency in the National Standard Curriculum. The course reinforces concepts and clinical skills students previously learned at the EMT level. It introduces advanced concepts in cardiology, airway management, respiratory

distress, and resuscitation. Students learn to identify patient assessment and management within the paramedic's scope of care.

Objectives:

- Demonstrate competency in performing head-to-toe patient assessment.
- Perform advanced airway management.
- Manage advanced cardiac care and recognize acute life-threatening situations.
- Identify and apply cognitive, psychomotor, and affective skills in a simulated out-of-hospital environment.
- Demonstrate and record performance in the NREMT lab portfolio.
- Integrate the pathophysiology, assessment, and management of the medical patient.
- Analyze advanced patient assessment findings and formulate management of these emergencies within the paramedic scope of practice.

Fundamental Field Externship **2 Credits/90 Clock-Hours**

In the Fundamental Field Experience course, students complete field rotations in a field experience system with a local service provider and an assigned preceptor. Students progress from the most basic assessment and treatment methods to the level of entry-level paramedics. This field experience is intended to prepare students for advanced psychomotor skills they will learn in EMSP 1520: Advanced Field Experience (block 2).

Objectives:

- Perform at an advanced EMT level in patient assessment and corresponding patient management.
- Demonstrate competence in interpersonal management when working cooperatively with professionals in the field.
- Receive and integrate feedback on field performance.
- Devise a patient care plan based on assessment findings.
- Distinguish the need for basic versus advanced airway interventions.
- Order appropriate pharmacologic interventions based on patient presentation and assessment findings.
- Successfully complete a minimum of 15 patient contacts during field rotations.

Fundamental Clinical Externship **2 Credits/90 Clock-Hours**

The Fundamental Clinical Experience course provides real-time hands-on training and treatment of patients under the supervision of an assigned preceptor. Students are involved with actual patient care, such as venous access, medication administration, respiratory treatment, and comprehensive patient assessment.

Objectives:

- Perform at an advanced EMT level in patient assessment and corresponding patient management.
- Work cooperatively with professionals in the clinical setting.
- Receive and integrate feedback on-clinical performance.
- Differentiate assessment findings of patients with those found in normal human physiology.
- Compare assessment details in acute versus chronic pathophysiology.
- Administer 12 lead EKGs to patients in the acute setting.
- Integrate the pathophysiology, assessment, and critical decision-making skills indicated for patients in special populations.

Utah System of Higher Education

Paramedic

FY2023 / 33 Credits (1170 Clock-Hours)

Advanced Emergency Care **6 Credits/180 Clock-Hours**

The Advanced Emergency Care course includes concepts on special populations in paramedicine such as advanced pediatric management, OB/GYN emergencies, neonatal resuscitation, geriatrics, and Trauma events. It also introduces cold weather rescue, environmental emergencies, rope rescue, swift water rescue, crime scene management, neurology, endocrinology, gastroenterology, pulmonary emergencies, cricothyrotomy, chest venting, external jugular cannulation, toxicology, hematology, shock management, nasogastric tube insertion, Foley catheter insertion, scene leadership, and incident management for the paramedic.

Objectives:

- Diagnose injuries and illnesses accurately in pediatric, adult, and geriatric patients under the supervision of an approved preceptor.
- Treat injuries and illnesses safely using the entire spectrum of paramedic protocols under the supervision of an approved preceptor.
- Compare the management of normal deliveries versus high-risk pregnancy and related gynecological emergencies.
- Evaluate the pathophysiology, management, and resuscitation of infants, including neonates and newborns.
- Demonstrate a patient assessment of an obstetric patient and organize findings for assessment-based management of a normal and abnormal.
- Diagram the Incident Command Structure (ICS) and explain concepts of interdisciplinary roles in various EMS incidents.
- Integrate awareness and management of Hazardous Materials incidents, bioterrorism, WMD, and mass casualty incidents.
- Outline care which may include out-of-classroom education in high angle rescue, swift water rescue, paramedic course, aeromedicine, and ongoing field assessment

Advanced Skills Lab **2 Credits/90 Clock-Hours**

The Advanced Skills Lab course provides practical learning of skills and National Registry competencies. These include cricothyrotomy, thoracotomy, childbirth (both normal and abnormal deliveries), trauma assessment, hemorrhage and shock management, bandaging, and splinting. Students show competency in the National Standard Curriculum.

Objectives:

- Demonstrate competency on National Standards in the entire spectrum of paramedic practice.
- Demonstrate and record performance in the NREMT lab portfolio.
- Illustrate how multisystem trauma and Mechanism of Injury (MOI) relate to patient assessment and scene management.
- Differentiate the pathophysiology, assessment, and management of lung injuries, myocardial injuries, vascular injuries, and other chest-related injuries.
- Integrate the pathophysiology, assessment, and critical decision-making skills indicated for patients in special populations.
- Demonstrate patient management in simulated out-of-hospital scenarios of the medical and trauma patient

Advanced Field Externship **2 Credits/90 Clock-Hours**

In the Advanced Field Experience course, Paramedic students complete field experience with an assigned preceptor. Students participate in the head-to-toe assessment and advanced treatment skills in

actual out-of-hospital field emergencies. This advanced field experience is intended to prepare students as entry-level Paramedics for EMSP 2110: Capstone Field Internship (block 3).

Objectives:

- Demonstrate the ability to safely assess and manage the treatment of an emergency pediatric, adult, or geriatric patient.
- Complete a minimum of 20 patient contacts during field rotations.
- Demonstrate a comprehensive patient assessment, including a detailed physical exam and patient history.
- Devise a patient care plan for trauma patients based on assessment findings.
- Distinguish the need for basic versus advanced interventions in medical or trauma patients.
- Recommend specific basic and advanced life support interventions in the medical or trauma patient.
- Order appropriate pharmacologic interventions based on patient presentation and assessment findings.

Advanced Clinical Externship **2 Credits/90 Clock-Hours**

The Advanced Clinical Experience course provides real-time hands-on training and treatment of patients under the supervision of an assigned preceptor. Students are involved with actual patient care such as venous access, medication administration, respiratory treatment, comprehensive patient assessment, childbirth, trauma assessment, pediatric assessment, and 12 lead ECG.

Objectives:

- Perform an exam of the OB patient.
- Perform a comprehensive trauma exam.
- Perform advance cardiac life support treatment.
- Perform advanced trauma life support.
- Perform pediatric and neonate advanced life support.
- Differentiate assessment findings of critical and stable pediatric patients.
- Distinguish between normal physiology children and pathophysiology in children with special healthcare needs.
- Integrate basic and advanced interventions in respiratory emergencies.

Capstone NREMT Exam Prep **3 Credits/90 Clock-Hours**

The Capstone NREMT Exam Prep course provides students with hands-on practice of the entire spectrum of paramedic care.

Objectives:

- Perform all duties as an entry-level paramedic using cognitive, affective, and psychomotor domains.
- Perform patient assessment in trauma situations.
- Demonstrate cardiac management skills.
- Manage patient condition competently in out-of-hospital scenarios.
- Demonstrate competency in airway, respiration, and ventilation, cardiology, resuscitation, trauma, medical, obstetrics and gynecology, and EMS operations for both adult and pediatric patients.
- Complete the required National Registry capstone portfolio

Capstone Field Externship **4 Credits/180 Clock-Hours**

UTAH SYSTEM OF HIGHER EDUCATION

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Paramedic

FY2023 / 33 Credits (1170 Clock-Hours)

In the Capstone Field Internship course, students participate in actual emergency out-of-hospital field situations, demonstrating team leadership, managing out-of-hospital situations, and successfully performing as competent entry-level paramedics in the field. Ongoing evaluation of the students' performance and competency in all areas of paramedicine will be the focus as the team lead calls under preceptor supervision.

Objectives:

- Demonstrate exemplary professional behavior, including but not limited to integrity, empathy, self-motivation, appearance/personal hygiene, self-confidence, communication, time management, teamwork/diplomacy, respect, patient advocacy, and careful delivery of service.
- Perform basic and advanced interventions as a part of a treatment plan intended to mitigate emergencies, provide symptom relief, and improve the overall health of the patient.
- Evaluate the effectiveness of interventions and modify the treatment plan accordingly.
- Prepare and document assessment findings and interventions to be used for research purposes.
- Complete a minimum of 25 ALS patient contacts during the Capstone Field rotations.