



Emergency Medical Technician Job Skills Certificate

Emergency Medical Technician Job Skills Certificate

Allied Health Department

Cerro Coso Community College

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## Emergency Medical Technician Job Skills Certificate

### Executive Summary

The Emergency Medical Technician (EMT) Job Skills Certificate program review provides a review of standards, statistical data, curriculum, instruction, equipment, and overall program support from internal and external sources. Successful completion of this certificate, due to the rigor involved, is a great accomplishment to the students and rightfully so. Those completing this certificate enter AA/AS programs in health careers, fire sciences, and administration of justice. Some complete science degrees to enter medical school. The majority of completers enter the job market in areas not specific to ambulance operations, such as the job fields of security, safety, ski patrol, fire fighting, law enforcement, and emergency room technicians. Fire service providers in Inyo County provide the ambulance services through volunteers that provide dual fire and medical roles but are not full-time positions. In Kern County ambulance providers hire our completers for immediate placement in the field. In surrounding counties students enter the job market at multiple ambulance providers, hospitals, and agencies.

This program review reaffirms the continued need within our communities for fully prepared "job ready" Emergency Medical Technicians. Advisory members continue to promote enrollment, actively support clinical experience, provide disposable supply when it becomes available, and allow the program access to ambulances for practical application training. Due to the nature of this career certificate's rigor and course curriculum, retention and completion continue to be the two areas that we struggle to increase without diminishing the standards.



## Emergency Medical Technician Job Skills Certificate

### Part 1 - Relevance

#### 1. Catalog Description

**EMERGENCY MEDICAL TECHNICIAN:** This job certificate provides career pathways into Emergency Medical Services through pre-hospital and clinical education from basic body systems to the intricate and often changing emergent medical care provided to the sick and injured. Successful completion of this job certificate provides a wide range of components for those interested in entering the job market directly or progressing to Paramedic, nursing or moving into pre-medicine to become a Physician Assistant or Medical Doctor.

#### 2. Program Learning Outcomes

1. Identify the correct sequence of assessments and treatments for patients experiencing cardiopulmonary arrest. Assessment: This will be assessed by scoring a passing mark on the national practical skills exam established by the NHTSA National Standard Curriculum and the AHA HCP standards.
2. Identify the etiology, pathophysiology and signs and symptoms of disorders of all body systems. Assessment: This will be assessed by scoring a passing mark on the NREMT-CBT EMT exam.
3. Identify critical medical patient conditions using standardized medical patient assessments. Assessment: This will be assessed by scoring a passing mark on the national medical assessment practical skills exams established by the NHTSA National Standard Curriculum.
4. Identify critical traumatic patient conditions using standardized trauma patient assessments. Assessment: This will be assessed by scoring a passing mark on the national trauma practical skills exam established by the NHTSA National Standard Curriculum.
5. Demonstrate leadership during the management of critical patient conditions. Assessment: This will be assessed by scoring a passing mark on the national practical skills exams established by the NHTSA National Standard Curriculum.
6. Demonstrate the ability to utilize resources to resolve medical and trauma patient conditions. Assessment: This will be assessed by scoring a passing mark on the national practical skills exams established by the NHTSA National Standard Curriculum.

Program learning outcomes 1, 3, 4, 5, and 6 assess the ability of the student to evaluate and manage patients using effective communication, critical thinking, and leadership skills. Program learning outcome #2 does not adequately or efficiently evaluate this program outcome in that the testing results do not specify the year the student completed the course versus the year they complete the national exam. The National Registry of Emergency Medical Technicians provides standardized data sets utilized by state Emergency Medical Service agencies that does not break down this information. This will require a PLO update to make it an evaluation at the course and program level, not through an outside organization that does not provide outcomes, only successful completion data for those that complete the exam.



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Students completing outcomes 1, 3, 4, 5, and 6 ensure cognitive, practical, and effective ability to perform at or above the level of an Emergency Medical Technician. This provides employment-ready completers. This is measured through student evaluation of the program, employer engagement and feedback, and advisory group member communications.

### 3. Courses/Program Matrix

#### Courses

EMTC C070	CPR for the Healthcare Provider	0.5
EMTC C105	Emergency Medical Technician	6.5
		Total Units: 7.0

#### Matrix

Program Learning Outcomes	1	2	3	4	5	6
EMTC C070	X		X			
EMTC C105	X	X	X	X	X	X

This continues to provide a clear path to completion and achievement of the program learning outcomes. The EMTC C070 course is required to enter the EMTC C105 course per Title XXII. Successful completion of the EMTC C105 course requirements then qualifies students to take the national exam to become registered EMTs. Competency in the C070 course is mandated and built upon in the C105 course in patient assessment and multiple interventions for all patient age groups and types.

The requirements for the job skills certificate indicate a clear pathway required to achieve completion of program outcomes. There are only two courses required for this certificate and it is clearly outlined to enable student success in meeting or exceeding the program outcomes. There is no degree or other program available for transfer or continuation. The majority of students earning the job skills certificate gain employment in multiple fields as described in the program description or continue into medical or fire science programs.

### 4. Program Pathway

Each semester the EMTC C070 course is offered prior to the semester start. The students entering the EMTC C105 courses show competency in the C070 skills and knowledge throughout the C105 course. Competency in the C070 skills is again tested at the end of the C105 course that includes various interventions using critical thinking throughout the evolving patient scenarios.



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These courses are not available online. The C070 course cognitive segment of the course is offered online. Once successful cognitive testing is completed, students are required to be skills tested to earn the certification. Cerro Coso does not offer the skills-only testing as it is available in the communities we serve.

### **4. Conditions of Enrollment**

Not applicable.

## Part 2 – Appropriateness

### **1. Connection to College Mission**

This job skills certificate provides market ready completers directly aligning with the college mission to provide certificates in career technical education leading to entry into the workforce. This certificate provides job skills training for individuals that may enter the job market, pursue additional medical degrees and certificated programs, and provide care to their respective communities in time of need. Standardized testing of cognitive, kinesthetic, and affective domains are evaluated throughout each module of the course, course sessions, practical skills teaching and testing, and the cognitive and practical final exams.

The authorizing county audits our EMT program to ensure compliance with state and local standards. The EMT Program Director and course instructors evaluate the program effectiveness at the end of each semester. Review of current research, methodology of teaching, emerging technology, and instructor effectiveness through student success and outcomes leads to changes directed at any potential weak areas and overall improvement. Each campus site of the college that offers this job skills certificate provides different challenges in which goals for improvement in student retention, completion, and overall success are made. Efforts to improve underserved student populations and communities have been a continued focus.

### **2. Determination of Student Needs**

Each exam may be remediated to build core knowledge and practical skills competency. Video recording of student skills practice provides students the opportunity to view themselves and their peers. Students are encouraged to be comfortable with making mistakes so they are comfortable receiving constructive criticism to naturalize the correct application of each intervention. Continued self and group exercises and skills practice provide skills advancement that prepares students for exams. The program has test taking training built into the program to encourage better student retention and success.

Advisory meetings each semester in addition to open communications and support from our advisory group member organizations and their employees provide regular evaluation of the needs within the communities and surrounding areas. Mandates established by the State of California and Kern County



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Emergency Medical Services Department dictate updates in required curriculum, clinical hours and refresher training.

Regular evaluation of student objectives and the pathways leading to meet the course objective are used throughout the course to strengthen student success. Each semester the program instructors phone conference to discuss program success, concerns, updates to new laws and standards of care, the latest research within the industry, teaching techniques, and how we incorporate all of these into the program. Success of our program is also measured by first time students pass rates on the National Registry of Emergency Medical Technicians Computer Based Testing for the Emergency Medical Technician. Cerro Coso's program ranks in the top three among other programs in Kern, San Bernardino, Inyo, and Mono Counties.

Labor market information is not easily obtainable (see appendix) for this job skills certification in that it does not capture employment for completers who are employed by companies located outside of our service area but provide services locally. Nor does not capture industries in which the completer is employed with a job classification outside of the medical field or those that volunteer within the rural communities as many of them are not paid.

Student tutoring is difficult to maintain in that once students complete the job skills certificate they become employed and are not active students that are eligible to provide tutoring services or they are enrolling in nursing programs that are full-time with heavily loaded courses. Multiple certified EMTs and Paramedics that assist students in our EMTC C105 courses provide group study sessions outside the college. This may occur at the local agency, company, or service provider's offices where completers are able to apply for employment after successful completion of the job skills certificate. Budgetary support for professional expert instructors to provide tutoring, exam preparation in cognitive and practical skills, and student remediation will be added to future planning to increase student success.

Advisory groups provide input of their specific needs. The industry has a regular employee turnover for the entry-level positions. Agencies, companies, and industries continue to fill and add positions that require an EMT certification to qualify.

### **3. Place of Program in Curriculum/Similar Programs**

This program is not available in our service area by any other college. Lone Pine High ROP/Adult School provides one course per year depending upon student and instructor availability.

The EMT Job Skills Certificate does not transfer to a degree program and there are no similar programs offered within the college. Completion of the job skills certificate allows for application to take the national exam to become a registered Emergency Medical Technician.

### **4. Majors and Completers**

There is no major that may be chosen for this job skills certification in that it is non-transferable, under 12 units, and not a degree program.





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Student success rates were: 59.4% from 8 sections in 2010-11; 50% from 8 sections in 2011-12; 64.9% from 6 sections in 2012-13; 61% from 7 sections in 2013-14; and 56.6% from 7 sections in 2014-15.

Not all eligible completers petition for the job skills certificate. To encourage petition completion, instructors include the petition in the course completion packet provided to the students at the end of each semester.

The development of a brochure is underway and expected to be completed by the end of fall 2015. This job skills certificate brochure will be available to local high schools, at community events, talks, advisory meetings, counseling services, and as an online resource.

EMERGENCY MEDICAL TECHNICIAN Job Skills Certificate Review Data								
	Sections All Sites	Enrolled	Census Enrolled	Ending Enroll	Students /Section	FTES	FTEF	FTES/ FTEF
2010-2011	16	398	333	292	42	50	4	21
Fall	8	204	158	135	40	23	2	19
Spring	8	194	175	157	44	27	2	22
2011-2012	16	355	283	241	55	33	5	22
Fall	9	186	150	122	33	21	2	16
Spring	6	160	126	115	42	12	2	15
2012-2013	14	310	267	215	39	42	4	17
Fall	6	132	104	75	35	15	2	13
Summer	2	24	24	24	12	0	0	6
Spring	6	154	139	116	46	26	2	22
2013-2014	15	323	281	203	38	46	5	16
Fall	9	227	196	143	44	30	3	18
Spring	6	96	85	60	28	16	2	13
2014-2015	17	320	292	224	35	47	5	18
Fall	9	194	176	130	39	29	3	17
Spring	8	126	116	94	30	18	2	18



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The enrollment trend data indicate a decrease in enrollment which is not reflected in FTES (full-time equivalent students).

The instructors in academic years 2010-11 and 2011-12 encouraged students to enroll in EMTC C105 if they were considering employment in this career field. When the student completed the course with a "C" or greater their transcript indicated a "passing" score, but the individual had not completed all of the state mandates for "course completion" or application for certification. Several students requested copies of their transcripts and a copy of a "course completion" in order to apply for positions as an Emergency Medical Technician for which they were not eligible. This created a conflict with the general academic understanding of success measured on a transcript versus the state regulations regarding minimum established standards per Title 22, chapter 9. Course grading was changed in 2012-13 to include rubric scored practical skills exams. This caused a decrease in student enrollment and retention but also minimized the potential for a student to pass the course without meeting state standards.

With the decrease in enrollment alternating course offerings at campus sites was instituted for the 2015-16 academic year.

### **6. Labor Market Information and Analysis (CTE Programs Only)**

EMSI data indicate a 3.1% increase in the job market within the areas we serve. It is difficult to extrapolate clear indicators of job skills growth or saturation in that the data does not include paid-call fire operations in Inyo County, security, safety officers, ski patrol, fire operations, and law enforcement personnel. For example security personnel with EMT certification in Trona are employed by a company from Simi Valley. Data do not include those personnel because they are not considered to be medical personnel nor is their employer within our service area. The Mammoth Lakes, Alta Sierra, and Wrightwood ski patrols are not included in the data again because they are not considered to be medical personnel. Wind farms within our service area offer a pay incentive for EMT certification and again are not included in the data because they are not considered to be medical personnel. The job market is more complex than the EMSI data indicate.

Based on local knowledge and student and employer feedback, the job market has additional openings not captured in EMSI market data.

### **7. Explanation of Employer Relationship (CTE Programs Only)**

We serve a unique small population base in our service area of less than 120,000 separated by 30 to 60 mile distances or more. The remote communities of Inyo County have paid-call fire personnel that staff ambulances as needed. The only full-time paid ambulance company in Inyo County is in Bishop and has a staff of 12.

Emergency medical providers in Kern County have full and part-time paid personnel in both fire service and ambulance operations. Additionally EMTs are employed as security officers, safety officers, law enforcement officers, and agency specialty team members and provide non-paid service as search and





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rescue and mountain rescue members. Companies, facilities, and agencies are encouraged to participate in advisory meetings to collaborate with our faculty, network with other providers and increase Cerro Coso's understanding of the needs within our operating area.

### 8. Advisory Committee (CTE Programs Only)

#### Ridgecrest Area Advisory Members:

Amanda Ball, Clinical Lab, Emergency Medical Services  
Tonny Verkyl, China Lake Fire Fighter, Fire/EMS  
Amanda Boudek, Ridgecrest Regional Hospital Clinical Lab, Hospital  
Ed Bronowicki, Delano Ambulance, Private Ambulance  
Erin Coccione, Liberty Ambulance - Supervisor, Emergency Medical Services  
Jason Mederis, Guardsmark Security - EMT, Security  
Steve Davis, Olancho Cartago Fire Chief, Fire/EMS  
William Denson, USAR Medical Corp., Emergency Medical Services  
Eduardo Duque, Bureau of Land Management Field Management, Federal Agency  
Scott Edwards, China Lake Fire - Captain, Federal Fire Service  
Jeffrey Gleason, Liberty Ambulance - Paramedic, Emergency Medical Services  
Ed Ortega, Community Representative, Medical Legal  
Katrina Houghton, Olancho Cartago Fire - Paramedic, Fire/EMS  
Patrick Hoffpauir, Hall Ambulance - EMT, Private Ambulance  
Ed Townsend, Searles Valley Fire Chief, Fire Rescue/Safety

#### Kern River Valley Advisory Members:

Shane Cook, Kern River Valley, Community Rep  
Charles Gholson, Liberty Ambulance - Paramedic, Emergency Medical Services  
James Grow, Paramedic, KRV Community/US Army Medical Corp., Community Rep  
Brian Lanterman, Liberty Ambulance - EMT, Private Ambulance  
Jason Moore, Community Rep, Community Rep  
Steve Pendergrass, Kern County Fire Battalion Chief, Fire Service  
Jennifer Quackenbush, RN, CC Adjunct Faculty  
Darren Amos, Paramedic, CC Adjunct Faculty

#### Bishop and Mammoth Lakes Advisory Members:

David Campbell, Chalfant Fire, Volunteer Fire  
Lynette Campbell, Chalfant Fire, Volunteer Fire  
Joe Cappello, Independence Fire Chief, Fire/EMS  
Damon Carrington, Big Pine Fire Chief, Fire/EMS  
Brianna Chappell-McGovern, Sierra Life Flight - Paramedic, Emergency Medical Services  
David Clarkson, Bishop Fire, Volunteer Fire  
Rob DeForrest, Mono County EMS, Emergency Medical Services





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Brent Harper, Mammoth Lakes Fire Chief, Fire/EMS  
Leroy Kritz, Lone Pine Fire Chief, Fire/EMS  
Larry Levy, Southern Inyo Fire Protection District Fire Chief, Fire Service  
Ray McGrahle, Mono County Fire District - Paramedic, Fire/EMS  
Ray Seguine, Bishop Fire Chief, Fire Service  
Eric Spoonhunter, Sierra Life Flight Paramedic, Emergency Medical Services  
Terry Waterbury, Inyo County Search and Rescue, Law Enforcement  
Phil West, Cal Fire - Fire Fighter, Fire Service  
Richard Williams, Bureau of Land Management - Field Management, Federal Agency  
Lloyd Wilson, Big Pine Fire, Volunteer Fire

Advisory boards with membership from the multiple industries that utilizing job skills certificate completers meet at the Kern River Valley, Ridgecrest, Bishop and Mammoth Lakes campuses. Advisory meetings are conducted once per semester, but members communicate throughout the year with the EMT Program Director. The advisory members participate in the review of the curriculum development and learning outcomes, and continue to evaluate the program. Members provide feedback regarding student success in the workplace. The advisory board agencies also participate in the program by providing student clinical experience at their organizations. This provides hiring opportunities for students by the organizations after completion of the job skills certificate.

### **9. Current Cost of the Program to Students**

The unique specific nature of this job skills certificate limits the college's ability to drive costs down. The complete certificate is 7.0 units and may be completed in one semester. No course materials fees are required for the job skills certificate. Expenses born by the student include mandates to comply with state law to enter the clinical environment. These include immunizations, alcohol/drug screening, background investigations, and a program shirt. The EMT Program Director actively seeks options to minimize student expenses related to completing this certificate.

Books utilized by the students may be rented or purchased. The use of an e-book provides an alternative to the more costly hard copy of the textbook. Unfortunately there are no open educational resources available for the required content of the certificate courses. Recovery of student expenses varies with the field in which the EMT becomes employed. Prevailing wages range from \$9.25-\$15.25/hour according to local employers. EMSI data indicates a median wage of \$17.82/hour. The equivalent of our job skills certificate costs \$3250-\$5700 at private training institutions.



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### CA Residents

x \$46 per unit  
 = \$322 in tuition and fees  
  
 = \$632 in one semester

### Non-residents

7.0 units  
 x (\$200 + \$42) per unit  
 = \$1694 in tuition and fees  
 + ~\$310 for books and supplies  
 = \$2004 in one semester

## Part 3 – Currency

### 1. Staffing

Currently one full-time and five adjunct faculty teach the Emergency Medical Technology courses. The full-time faculty acts as the EMT Program Director.

The program certificate was approved in 2012 and has been managed by the one full-time faculty.

Current staffing is inadequate in that there is still a need for adjunct faculty to co-teach courses offered at the Eastern Sierra campus sites. All other sites have adequate staffing.

### 2. Professional Development

The faculty participate in professional development to keep abreast of trends, concerns, and changes in standards and protocols in the Emergency Medical Technology field.

The Program Director attends CTE conferences, flex days, career fairs, and completes continuing education credits in the fields of basic and advance emergency medical care. The Program Director is a licensed Paramedic. California State requires 24 hours of continuing education credits per year to maintain Paramedic licensure. All full-time and adjunct faculty complete continuing education to remain licensed in order to teach within this job skills certificate.

### 3. Facilities and Physical Resources

The facilities are safe and sufficient to support and assure the integrity and quality of the program. There is equipment at all sites served. The equipment is modern and functional with minimal exception and works well for facilitation of teaching.

Equipment used for the program includes disposable and non-disposable supplies that are mandated to be available at all sites. At this time the budget does meet the level necessary to replace disposable supplies but is insufficient to replace non-disposable supplies that have deteriorated. A replacement schedule is being developed to incorporate in the annual unit plan and budget. Airway mannequins are used throughout the C105 courses and are \$2200 each. Additional teaching materials become a requirement as research concludes and standards change during budget years causing unanticipated needs. In some areas the local pre-hospital medical providers assist with refilling oxygen and providing expired supplies that may be used in class.



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Facilities are sufficient in that there must not only be appropriate seating and desks/tables, but there must be floor space for students to practice the skills and techniques of emergency medical care. Storage cabinets are needed at the Eastern Sierra campus sites to secure teaching supplies and equipment.

### **4. Technology**

The technology resources are sufficient to maintain the integrity and quality of the program. Decisions on technology are based on student needs and success. Student remediation has decreased since the introduction of iPads in the classroom.

In Moodle a meta-site is used to provide student information, interaction outside of class, an introduction to computerized testing, Power Points, audio books, case scenarios, and other relevant course information and links.

Within the classroom iPads are utilized to reference specific sites and information during classes, to video student practical skills sessions before instruction, at mid-terms, and for final exams. Students self-, peer-, and instructor-evaluate their practical skills sessions with greater success.

### **5. Marketing**

The information in the CTE brochure and on the college website is clear and accurate. The production of an updated program brochure is needed to further promote the job skills certificate.

CTE information banners are used on campuses, at community functions and at other special events. EMT job skills certificate and department information is available on the Cerro Coso Community College website, at each campus in the CTE brochure, and is provided at community events. Faculty actively participate in career day, health career ROP course talks, and local fairs to provide the public and prospective students information for all medical offerings at Cerro Coso. In under-enrolled areas of East Kern, newspaper ads have been utilized to promote course offerings.

## Part 4 – Student Achievement

### **1. Course-Level Student Performance Data**

Retention rates for the EMTC C070 courses are consistently at or above 99% as this is a one-day course. EMTC C105 course is a 171 hour course with average yearly retention rates for 2010-11 of 82.7%; 2011-12 of 77.4%; 2012-13 of 82.8%; 2013-14 of 73%; and 2014-15 of 82.7%; and passing rates average for 2010-11 of 59.4%; 2011-12 of 50%; 2012-13 of 64.9%; 2013-14 of 61%; and 2014-15 of 56.6%.

The retention rate varies within the EMTC C105 course. Students having difficulties are encouraged to fully and actively participate throughout the course, even if they will not succeed with a passing grade. Re-enrollment in a subsequent semester then allows for successful completion. These students learn the cognitive and practical coursework, and are able meet the course rigor and succeed.



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The program is monitored closely by the Program Director to maintain compliance with state and county regulations. Within the program, instructors meet and review outcomes and successes after each semester. Classroom adjustments are made in order to meet or exceed standards and do not typically require curriculum changes.

A noteworthy trend is the increase in skills attainment with the use of iPads in the classroom practice and testing. Student self-review reaffirms how techniques are performed or in some cases not performed. The effectiveness of communications during scenarios is evaluated. Areas evaluated include verbal speech, body language, tone of voice, inflections used under various situations, rate of speech, and methods used in communication with non-English-speaking or hearing impaired patients. Leadership skills, patient care interventions, and patient assessment are other areas addressed with video review.

### 2. Employment Data (CTE Programs Only)

As mentioned earlier EMSI data do not reflect the complexities of the job market. EMT certification is utilized in areas of law enforcement, firefighting, search and rescue, and safety and security.

Currently Cerro Coso Community College Emergency Medical Technician Job Skills certificated students are employed at: Liberty Ambulance, Symons Ambulance, Guardsmart Security, Securitas Security, Kern Valley Hospital District, Kern County Sherriff’s Department, Mammoth Mountain Ski Resort, Mono County EMS, CalFire, American Medical Response, China Lake Fire Department, National Forest Service, Bureau of Land Management, and multiple volunteer departments within our service area.

This is the first EMT Job Skills Certificate program review. According to the advisory group members there remains a consistent need for additional EMT job skills certificate completers to fill their vacancies.

### 3. Achievement of Program Learning Outcomes

PLO 1:	Identify the correct sequence of assessments and treatments for patients experiencing cardiopulmonary arrest.
Target:	80%
Assessment Method:	a performance, scored by rubric
Assessment Date:	Spring 2015
Recent Results:	97%
PLO 2:	Identify the etiology, pathophysiology, signs and symptoms of disorders of all body systems.
Target:	80%
Assessment Method:	final computer exam and rubric for skills testing
Assessment Date:	Spring 2015
Recent Results:	97%
PLO 3:	Identify critical medical patient conditions using standardized medical patient assessments.
Target:	80%
Assessment Method:	a performance scored by rubric
Assessment Date:	Spring 2015





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Recent Results:	97%
PLO 4:	Identify critical trauma patient conditions using standardized traumapatient assessments.
Target:	80%
Assessment Method:	a performance scored by rubric
Assessment Date:	Spring 2015
Recent Results:	97%
PLO 5	Demonstrate leadership during the management of critical patient conditions
Target:	80%
Assessment Method:	a performance score by rubric
Assessment Date:	Spring 2015
Recent Results:	97%
PLO 6	Demonstrate the ability to utilize resouces to resolve medical and trauma patient conditions.
Target:	80%
Assessment Method:	a performance scored by rubric
Assessment Date:	Spring 2015
Recent Results:	97%

Assessment History Summary							
SLO #	Target	Semester	Met?	Semester	Met?	Semester	Met?
PLO 1	80%	SP15	Yes				
PLO 2	80%	SP15	Yes				
PLO 3	80%	SP15	Yes				
PLO 4	80%	SP15	Yes				
PLO 5	80%	SP15	Yes				
PLO 6	80%	SP15	Yes				

**a. Gaps and Improvements Made**

Program targets were met, but there is a consistent gap between retention and completion. Former students that have dropped from the EMTC C105 course indicated their reason for dropping from the course were primarily due to extrinsic factors. The rigor of the course was also a factor in that students either indicated they were concerned about being responsible for a patient and felt the course was not long enough, or they felt the course was too much work for them to complete in one semester.

**b. Summary of Program Learning Outcome Achievement**

Successful student performance of this job skills certificate is the goal of all instructors in the program. Unlike other certificates, this one consists of only two courses: a single day course, and a semester-long course that is over 3 times the hours of a standard academic course. The latter course requires extensive study time outside of class in addition to the clinical experience. Student achievement of the program learning outcomes is at or above the 80 percent target with student remediation. Forms of remediation include exam reviews, practical skills refreshers, group peer review, and instructor group review. The ultimate goal would be to reach a greater than 80 percent student success without remediation.





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Every semester all instructors in the program meet to discuss the learning outcomes. They review teaching methods, state and national standards, the curriculum, practical skills teaching techniques, testing within the program, grading standards, and syllabi, making adjustments to add more focus on weak areas within their courses.

Effective fall 2015, EMTC C105 incorporated fully interactive, scenario-based teaching in the classroom. This requires scenario preparation time of mock patients. The scenario training is progressing to include moulage, full application of equipment, lifting and moving the "patient" onto a gurney, movement to and lifting into an ambulance, calling in a patient report, and giving a post-arrival report in the classroom. The complete scenario is video recorded. Quality improvement evaluation of the scenario by peers, the mock patient, and instructors occurs after the scenario, during the review of video segments. Results of this will be evaluated at a later date and included in future program reviews. Current student feedback is positive and they request more of this type of learning.

**4. Achievement of Course Student Learning Outcomes (SLO)**

SLO assesment has been completed for both courses required for the job skills certificate. The EMTC C070 Basic Life Support for Healthcare Providers course has a 100% success rate with minimum target pass rate on the written exam of 84%. This is a single day course in which students must pass all skills tests and the written exam established by the American Heart Association.

The EMTC C105 course became 171 hours starting spring 2012 with only one prerequisite course, EMTC C070, as a state mandate. The SLOs indicate student success at course finals at or above the 80% target.

The overall course completion rate has varied each year: 59.4% 2010-11; 46.55% 2011-12; 64.9% 2012-13; 61% 2013-14; and 56.6% 2014-15. Retention in the EMTC C105 course remains greater then 72.9%.

5-Year Assessment History								
Course	SLO #	Target	Semester	Met?	Semester	Met?	Semester	Met?
EMTC C070	SLO 1	84%			FA14	Yes	SP15	Yes
	SLO 2	84%			FA14	Yes	SP15	Yes
	SLO 3	84%			FA14	Yes	SP15	Yes
	SLO 4	84%			FA14	Yes	SP15	Yes
	SLO 5	84%			FA14	Yes	SP15	Yes
EMTC C105	SLO 1	80%	SP13	Yes			SP15	Yes
	SLO 2	80%	SP13	Yes			SP15	Yes
	SLO 3	80%	SP13	Yes			SP15	Yes
	SLO 4	80%	SP13	Yes			SP15	Yes
	SLO 5	80%	SP13	Yes			SP15	Yes

**a. Gaps and Improvements Made**

No improvements are required or specified in that all goals were met. Course changes for in-class instruction have been made in order to meet the California State standards and provide for better outcomes, retention, and overall student success. Increasing the number of scenario-based practical





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application skills sessions has been done to encourage better understanding of cognitive and affective learning in addition to building critical thinking, communication, and leadership skills.

Course outcomes are assessed at the end of each course but will be entered each spring semester.

### **b. Summary of Student Learning Outcome Achievement**

Student learning outcomes are being achieved through continued interactive learning. Interactive learning utilized in the C105 course includes scenario-based practice using iPads for video recording. Videos are reviewed at student, peer, and instructor levels. Students self-evaluate and correct errors in skills, communications, leadership, safety, and equipment utilization.

Assessment of student learning outcomes is incorporated in personnel evaluations and discussed at Allied Health department and EMT program meetings. Instructors are encouraged to incorporate teaching and learning activities to provide the greatest opportunity for achievement of student learning outcomes. Regular collaboration on which teaching techniques are effective and encourage active learning and participation are reviewed and shared between programs within the Allied Health department, including the EMT program. Adjunct faculty actively participate in evaluation of the students and often attend teaching sessions of other instructors to evaluate and learn different techniques for teaching.

## Part 5 – Action Plans

### **1. Analysis of Current Program Strengths**

The Emergency Medical Technician Job Skills Certificate provides tracking of students who complete the training required for entry into the job market in a single semester. Tracking of students entering the job market after completion is difficult to compile. Data are not accurate, successful students do not always enter positions within the EMT job classification for tracking, and do not always enter full-time paid positions. The relationships the college has with local industry provide opportunities for student entry into multiple job markets and direct support of our program by providing clinical experience for students, supply support for courses, and ambulances for practical skills training.

### **2. Analysis of Improvements Needed**

Although retention has varied, changes within the program are meant to serve the diverse student populations within our services area. Entry into the industry typically appeals to the younger population due to the multiple fields the EMT certification may be used to transition to.

### **3. Three-Year Program Strategies**

Increase student success to 75% by funding professional expert instructors to provide tutoring, practical skills practice, test monitoring, and student support.





## Emergency Medical Technician Job Skills Certificate

Standardize each course by purchasing the equipment needed to provide full scenario based training. Scenario-based training provides greater affective learning and naturalization of practice skills and techniques.

Revise the certificate to remove the reference to the AS/AA degree that was not approved.

Revise or remove program learning outcome #2 because it cannot be assessed. We do not have the individual student results from the National Registry of Emergency Medical Technicians exam.

Develop an equipment replacement schedule to incorporate in the department annual unit plan and budget.

### **4. Six-Year Program Strategies**

Establish a method for tracking student entry into the job market, as the EMSI data are insufficient in capturing the complexities of the job market. This will require continued communications with employers and students to verify job entry.

## Part 6 – Supporting Documentation

### EMERGENCY MEDICAL TECHNICIAN Job Skill Certificate Program Review Data

		Sections	1st Day Enroll	Census Enrollmt	Ending Enroll	Students /Section	Waitlist First Day	Actual FTES	FTEF	FTES/ FTEF	Retention Rate	Success Rate	
<b>Total</b>		78	1,706	1,456	1,175	208	22	218	22	94	9	8	
<b>EMTCC070</b>	CPR for the Healthcare Provide	Spring 2015	5	64	64	51	13	0	0.9	0.1	9.4	100.0%	100.0%
		Fall 2014	5	93	92	64	18	0	1.2	0.2	6.5	100.0%	100.0%
		<b>2014-2015</b>	<b>10</b>	<b>157</b>	<b>156</b>	<b>115</b>	<b>16</b>	<b>0</b>	<b>2.1</b>	<b>0.3</b>	<b>7.5</b>	<b>100.0%</b>	<b>100.0%</b>
		Spring 2014	3	38	37	25	12	0	0.5	0.1	4.3	100.0%	100.0%
		Fall 2013	5	113	102	75	20	1	1.3	0.2	7.2	100.0%	98.7%
		<b>2013-2014</b>	<b>8</b>	<b>151</b>	<b>139</b>	<b>100</b>	<b>17</b>	<b>1</b>	<b>1.8</b>	<b>0.3</b>	<b>6.1</b>	<b>100.0%</b>	<b>99.0%</b>
		Spring 2013	3	62	62	51	21	0	1.0	0.1	8.8	100.0%	100.0%
		Fall 2012	3	49	47	29	16	0	0.6	0.1	5.0	100.0%	100.0%
		Summer 2012	2	24	24	24	12	0	0.5	0.1	6.2	100.0%	100.0%
		<b>2012-2013</b>	<b>8</b>	<b>135</b>	<b>133</b>	<b>104</b>	<b>17</b>	<b>0</b>	<b>2.0</b>	<b>0.3</b>	<b>6.7</b>	<b>100.0%</b>	<b>100.0%</b>
		Spring 2012	3	67	62	56	21	3	1.1	0.1	9.6	100.0%	100.0%
		Fall 2011	5	84	75	61	15	0	1.2	0.2	6.3	100.0%	98.4%
		<b>2011-2012</b>	<b>8</b>	<b>151</b>	<b>137</b>	<b>117</b>	<b>17</b>	<b>3</b>	<b>2.2</b>	<b>0.3</b>	<b>7.5</b>	<b>100.0%</b>	<b>99.1%</b>
		Spring 2011	4	76	68	72	17	3	1.4	0.1	9.3	100.0%	100.0%
		Fall 2010	4	75	68	57	17	2	1.1	0.1	7.3	100.0%	100.0%
<b>2010-2011</b>	<b>8</b>	<b>151</b>	<b>136</b>	<b>129</b>	<b>17</b>	<b>5</b>	<b>2.5</b>	<b>0.3</b>	<b>8.3</b>	<b>100.0%</b>	<b>100.0%</b>		
Sum		42	745	701	565	17	9	10.6	1.5	7.2	100.0%	99.6%	

		Sections	1st Day Enroll	Census Enrollmt	Ending Enroll	Students /Section	Waitlist First Day	Actual FTES	FTEF	FTES/ FTEF	Retention Rate	Success Rate	
<b>EMTCC105</b>	Emergency Medical Technician	Spring 2015	3	62	52	43	17	0	17.0	1.9	8.9	82.7%	53.8%
		Fall 2014	4	101	84	66	21	1	27.6	2.5	10.9	78.6%	58.3%
		<b>2014-2015</b>	<b>7</b>	<b>163</b>	<b>136</b>	<b>109</b>	<b>19</b>	<b>1</b>	<b>44.6</b>	<b>4.4</b>	<b>10.1</b>	<b>80.1%</b>	<b>56.6%</b>
		Spring 2014	3	58	48	35	16	0	15.7	1.9	8.3	72.9%	60.4%
		Fall 2013	4	114	94	68	24	2	28.3	2.5	11.2	73.1%	61.3%
		<b>2013-2014</b>	<b>7</b>	<b>172</b>	<b>142</b>	<b>103</b>	<b>20</b>	<b>2</b>	<b>44.0</b>	<b>4.4</b>	<b>9.9</b>	<b>73.0%</b>	<b>61.0%</b>
		Spring 2013	3	92	77	65	26	0	25.3	1.9	13.3	84.4%	64.9%
		Fall 2012	3	83	57	46	19	0	14.8	1.9	7.8	80.7%	64.9%
		<b>2012-2013</b>	<b>6</b>	<b>175</b>	<b>134</b>	<b>111</b>	<b>22</b>	<b>0</b>	<b>40.2</b>	<b>3.8</b>	<b>10.6</b>	<b>82.8%</b>	<b>64.9%</b>
		Spring 2012	3	93	64	59	21	0	11.1	1.9	5.9	90.8%	43.1%
		Fall 2011	5	111	82	65	16	0	20.1	2.4	8.5	77.4%	50.0%
		<b>2011-2012</b>	<b>8</b>	<b>204</b>	<b>146</b>	<b>124</b>	<b>38</b>	<b>0</b>	<b>31</b>	<b>4</b>	<b>14</b>	<b>77.4%</b>	<b>50.0%</b>
		Spring 2011	4	118	107	85	27	3	25.9	2.0	13.2	79.4%	55.1%
		Fall 2010	4	129	90	78	23	7	21.8	1.9	11.6	86.7%	64.4%
		<b>2010-2011</b>	<b>8</b>	<b>247</b>	<b>197</b>	<b>163</b>	<b>25</b>	<b>10</b>	<b>47.7</b>	<b>3.8</b>	<b>12.4</b>	<b>82.7%</b>	<b>59.4%</b>
		Sum		36	961	755	610	21	13	207.8	20.8	10.0	80.6%

## Cerro Coso College -- EMTC C070 CPR for the Healthcare Provider - Student Learning Outcomes

Describe the steps of CPR

### Basic Information:

**Course:** EMTC C070 CPR for the Healthcare Provider

**College:** Cerro Coso College

**Assessment Term:** Fall, 2014

**Status:** Pending

**Co-contributors:**

### Learning Outcome:

**Target of Performance:** This will be assessed by the student passing the written component at 84% or better.

**Learning Outcome:** Describe the steps of CPR

**Assessment Tool/Scoring Method:** an exam

### Assessment Plan:

**Changes Made Since Last Assessment:** This is the first assessment.

**Assessment Plan:** This will be assessed by the student passing the written component at 84% or better.

### Assessment Results:

**Results:** All 51 students in the 3 sections of EMTC C070 CRN32014, CRN32015 and CRN32017 passed.

## Cerro Coso College -- EMTC C070 CPR for the Healthcare Provider - Student Learning Outcomes

**Analysis and Plan for Improvement and Reassessment:** No change indicated at this time.

**Participants:** All students enrolled in CRN32014, CRN32015 and CRN32017.

### Attachments:

Describe the signs and actions for severe airway obstruction in the responsive and unresponsive victim

### Basic Information:

**Course:** EMTC C070 CPR for the Healthcare Provider

**College:** Cerro Coso College

**Assessment Term:** Fall, 2014

**Status:** Pending

**Co-contributors:** Annette Hodgins,

### Learning Outcome:

**Target of Performance:** All students

**Learning Outcome:** Describe the signs and actions for severe airway obstruction in the responsive and unresponsive victim

**Assessment Tool/Scoring Method:** an exam

### Assessment Plan:

**Changes Made Since Last Assessment:** This is the first assessment.

## Cerro Coso College -- EMTC C070 CPR for the Healthcare Provider - Student Learning Outcomes

**Assessment Plan:** Assess students passing the American Heart Association Healthcare Provider CPR test and skills. All students in EMTC C070 CPR courses for the Spring 2013 will be included in the assessment plan.

### Assessment Results:

**Results:** All 51 students enrolled in EMTC C070 CRN32014, 32015 and 32017 passed.

**Analysis and Plan for Improvement and Reassessment:** No change indicated at this time.

**Participants:** All students enrolled in CRN 32014, 32015 and 32017.

### Attachments:

[INFANT SKILLS](#)

[ADULT SKILLS](#)

Describe the links in the Chain of Survival, including the importance of early activation

### Basic Information:

**Course:** EMTC C070 CPR for the Healthcare Provider

**College:** Cerro Coso College

**Assessment Term:** Spring, 2013

**Status:** Pending

**Co-contributors:** Annette Hodgins,

### Learning Outcome:

## Cerro Coso College -- EMTC C070 CPR for the Healthcare Provider - Student Learning Outcomes

**Target of Performance:** All students

**Learning Outcome:** Describe the links in the Chain of Survival, including the importance of early activation

**Assessment Tool/Scoring Method:** Other(Attached Skill Assessment Form.)

### Assessment Plan:

**Changes Made Since Last Assessment:** This is the first assessment.

**Assessment Plan:** Assess students passing the American Heart Healthcare Provider CPR test and skills. All students in the EMTC C070 courses for spring 2013 will be included in the assessment plan.

### Assessment Results:

**Results:** All 51 students in the 3 sections of CRN 32014, 32015 and 32017 passed.

**Analysis and Plan for Improvement and Reassessment:** No change indicated at this time.

**Participants:** All 51 students in the 3 sections of CRN 32014, 32015 and 32017.

### Attachments:

Describe the signs of four common life threatening emergencies in adults

### Basic Information:

**Course:** EMTC C070 CPR for the Healthcare Provider

**College:** Cerro Coso College

## Cerro Coso College -- EMTC C070 CPR for the Healthcare Provider - Student Learning Outcomes

**Assessment Term:** Spring, 2013

**Status:** Pending

**Co-contributors:** Annette Hodgins,

### Learning Outcome:

**Target of Performance:** all students

**Learning Outcome:** Describe the signs of four common life threatening emergencies in adults

**Assessment Tool/Scoring Method:** an exam

### Assessment Plan:

**Changes Made Since Last Assessment:** This is the first assessment.

**Assessment Plan:** Assess students passing the American Heart Healthcare Provider CPR test and skills. all students in EMTC C070 CPR courses for the spring 2013 semester will be included in the assessment plan

### Assessment Results:

**Results:** All 51 students in the 3 sections of EMTC C070 CRN 32014, 32015 and 32017 passed.

**Analysis and Plan for Improvement and Reassessment:** No change indicated at this time.

**Participants:** all students enrolled in CRN 32014, 32015 and 32017.

### Attachments:

**Demonstrate with accuracy all the skills essential for successful CPR**



## Cerro Coso College -- EMTC C070 CPR for the Healthcare Provider - Student Learning Outcomes

### Basic Information:

**Course:** EMTC C070 CPR for the Healthcare Provider

**College:** Cerro Coso College

**Assessment Term:** Spring, 2013

**Status:** Pending

**Co-contributors:** Annette Hodgins,

### Learning Outcome:

**Target of Performance:** all students

**Learning Outcome:** Demonstrate with accuracy all the skills essential for successful CPR

**Assessment Tool/Scoring Method:** Other(AHA Skill Evaluation Sheets)

### Assessment Plan:

**Changes Made Since Last Assessment:** This is the first assessment.

**Assessment Plan:** Assess students passing the American Heart Healthcare Provider CPR test and skills. All students in the EMTC C070 courses for spring 2013 will be included in the assessment plan.

### Assessment Results:

**Results:** All 51 students in the 3 sections of EMTC C070 CRN 32014, 32015 and 32017 passed.

**Analysis and Plan for Improvement and Reassessment:** No change indicated at this time.

## Cerro Coso College -- EMTC C070 CPR for the Healthcare Provider - Student Learning Outcomes

**Participants:** All students enrolled in CRN 32014, 32015 and 32017.

### **Attachments:**

[Skill sheet 1](#)

[Skill sheet 2](#)

## Cerro Coso College -- EMTC C105 Emergency Medical Technician - Student Learning Outcomes

Recognize minor to major medical and trauma patient conditions

### Basic Information:

**Course:** EMTC C105 Emergency Medical Technician

**College:** Cerro Coso College

**Assessment Term:** Spring, 2013

**Status:** Pending

**Co-contributors:** Annette Hodgins, Matthew Wanta,

### Learning Outcome:

**Target of Performance:** 80% or greater on the written and practical final exams.

**Learning Outcome:** Recognize minor to major medical and trauma patient conditions

**Assessment Tool/Scoring Method:** an exam

### Assessment Plan:

**Changes Made Since Last Assessment:** This is the first curriculum assessment. Courses are assessed by all instructors, skills instructors and the EMT Director at the end of each semester.

**Assessment Plan:** This will be assessed by the students passing the written and practical exams with an 80% or greater.

### Assessment Results:

**Results:** 87% of the students passed the computer exam and practical skill application testing.

## Cerro Coso College -- EMTC C105 Emergency Medical Technician - Student Learning Outcomes

**Analysis and Plan for Improvement and Reassessment:** The goal for this assessment was met. No change indicated at this time although an instructor meeting to evaluate overall student success is completed each semester to encourage retention and increased student success.

**Participants:** A sampling of students enrolled in CRN 32018 and 32019.

### Attachments:

[Attachment1](#)

**Demonstrate appropriate scene survey, patient assessment, management and treatment of medical and trauma patients, in a safety conscious manner, to the training level of an EMT.**

### Basic Information:

**Course:** EMTC C105 Emergency Medical Technician

**College:** Cerro Coso College

**Assessment Term:** Spring, 2013

**Status:** Pending

**Co-contributors:** Annette Hodgins, Matthew Wanta,

### Learning Outcome:

**Target of Performance:** 80% or greater on the written and practical final exams.

**Learning Outcome:** Demonstrate appropriate scene survey, patient assessment, management and treatment of medical and trauma patients, in a safety conscious manner, to the training level of an EMT.

**Assessment Tool/Scoring Method:** a performance, scored by rubric

## Cerro Coso College -- EMTC C105 Emergency Medical Technician - Student Learning Outcomes

### Assessment Plan:

**Changes Made Since Last Assessment:** This is the first curriculum assessment. Courses are assessed by all instructors, skills instructors and the EMT Director at the end of each semester.

**Assessment Plan:** This will be assessed by the students passing the written and practical exams with an 80% or greater.

### Assessment Results:

**Results:** Thirty-two of the forty students in two sections of EMTC C105 CRN 32018 and 32019 passed with an 80% or greater score. This is an 80% success rate. Seven students did not take the practical exams and only 1 did not score greater than 80%.

**Analysis and Plan for Improvement and Reassessment:** The goal for this assessment was met. No change indicated at this time although an instructor meeting to evaluate overall student success is completed each semester to encourage retention and increased student success.

**Participants:** All students enrolled in CRN 32018 and 32019.

### Attachments:

[Attachment1](#)

**Identify the basic topographical anatomy of the human body organ systems.**

### Basic Information:

**Course:** EMTC C105 Emergency Medical Technician

**College:** Cerro Coso College

**Assessment Term:** Spring, 2013

## Cerro Coso College -- EMTC C105 Emergency Medical Technician - Student Learning Outcomes

**Status:** Pending

**Co-contributors:** Annette Hodgins, Matthew Wanta,

### **Learning Outcome:**

**Target of Performance:** 80%

**Learning Outcome:** Identify the basic topographical anatomy of the human body organ systems.

**Assessment Tool/Scoring Method:** an observation, scored by rubric

### **Assessment Plan:**

**Changes Made Since Last Assessment:** No changes made.

**Assessment Plan:** Students are evaluated using a rubric during scenario based exams.

### **Assessment Results:**

**Results:** 88% of the students passed the practical skill application testing.

**Analysis and Plan for Improvement and Reassessment:** No improvement plan.

**Participants:** A random sample of students that completed the practical exam.

### **Attachments:**

**Demonstrate knowledge and ability according to the standards established by the U.S. National Highway Traffic Safety Administration by passing the Emergency Medical Technician level national practical and cognitive exams.**

## Cerro Coso College -- EMTC C105 Emergency Medical Technician - Student Learning Outcomes

### Basic Information:

**Course:** EMTC C105 Emergency Medical Technician

**College:** Cerro Coso College

**Assessment Term:** Spring, 2013

**Status:** Pending

**Co-contributors:** Annette Hodgins, Matthew Wanta,

### Learning Outcome:

**Target of Performance:** 80% or greater on the practical final exams.

**Learning Outcome:** Demonstrate knowledge and ability according to the standards established by the U.S. National Highway Traffic Safety Administration by passing the Emergency Medical Technician level national practical and cognitive exams.

**Assessment Tool/Scoring Method:** a performance, scored by rubric

### Assessment Plan:

**Changes Made Since Last Assessment:** This is the first assessment.

**Assessment Plan:** Assess all students completing all modules required to perform the practical exams testing. All students in EMTC C105 EMT courses in the spring 2013 will be included in the assessment plan.

### Assessment Results:

**Results:** 83% of the students passed the practical scenarios exams and cognitive exams.

## Cerro Coso College -- EMTC C105 Emergency Medical Technician - Student Learning Outcomes

**Analysis and Plan for Improvement and Reassessment:** Continued evaluation by course instructors to improve the course student success and retention. Reassess in 2 years.

**Participants:** Thirty-two of the forty students in two sections of EMTC C105 CRN 32018 and 32019 passed with an 80% or greater score. This is an 80% success rate. Seven students did not take the practical exams and only 1 did not score greater than 80%.

### Attachments:

Explain how the human organ systems react in various medical and traumatic conditions.

### Basic Information:

**Course:** EMTC C105 Emergency Medical Technician

**College:** Cerro Coso College

**Assessment Term:** Spring, 2013

**Status:** Pending

**Co-contributors:** Annette Hodgins, Matthew Wanta,

### Learning Outcome:

**Target of Performance:** 80% or greater on the practical final exams.

**Learning Outcome:** Explain how the human organ systems react in various medical and traumatic conditions.

**Assessment Tool/Scoring Method:** a performance, scored by rubric

### Assessment Plan:



## Cerro Coso College -- EMTC C105 Emergency Medical Technician - Student Learning Outcomes

**Changes Made Since Last Assessment:** No changes have been made. This is the first assessment.

**Assessment Plan:** students are scored using a rubric based evaluation of practical performance in scenario based final exams.

### **Assessment Results:**

**Results:** Thirty-two of the forty students in two sections of EMTC C105 CRN 32018 and 32019 passed with an 80% or greater score. This is an 80% success rate.

**Analysis and Plan for Improvement and Reassessment:** Continued review of student performance based outcomes even though the target was met.

**Participants:** Thirty-two of the forty students in two sections of EMTC C105 CRN 32018 and 32019 that completed the practical exams.

### **Attachments:**

[Attachment1](#)

# Occupation Overview

EMSI Q2 2015 Data Set

3000 College of Heights Blvd  
Ridgecrest, California 93555

760.384.6258 **Parameters**

## Occupations

Code	Description
29-2041	Emergency Medical Technicians and Paramedics

## Regions

Code	Description
6027	Inyo County, CA
6029	Kern County, CA
6051	Mono County, CA

## Timeframe

2014 - 2015

## Datarun

2015.2 – QCEW Employees

### Emergency Medical Technicians and Paramedics in 3 Counties

**Emergency Medical Technicians and Paramedics (SOC 29-2041):** Assess injuries, administer emergency medical care, and extricate trapped individuals. Transport injured or sick persons to medical facilities.

**Sample of Reported Job Titles:** ParamedicFlight ParamedicEmergency Medical Technician, Basic (EMT, B)Emergency Medical Technician (EMT)Multi Care Technician (Multi Care Tech)First ResponderEMT/Dispatcher (Emergency Medical Technician/Dispatcher)EMT, Paramedic (Emergency Medical Technician, Paramedic)EMT Intermediate (Emergency Medical Technician, Intermediate)Emergency Medical Technician/Driver (EMT/DRIVER)

**Related O\*NET Occupation:** Emergency Medical Technicians and Paramedics

### (29-2041.00) Occupation Summary for Emergency Medical Technicians and Paramedics

<b>292</b>	<b>3.1%</b>	<b>\$17.82/hr</b>
Jobs (2015)	% Change (2014-2015)	Median Hourly Earnings
50% below National average	Nation: 2.7%	Nation: \$15.24/hr

## Regional Trends

	Region	2014 Jobs	2015 Jobs	Change	% Change
●	Region	283	292	9	3.2%
●	State	17,517	18,137	620	3.5%
●	Nation	236,935	243,331	6,396	2.7%

## Regional Breakdown

County	2015 Jobs
Kern County, CA	241
Inyo County, CA	49
Mono County, CA	<10

## Job Postings Summary

<b>6</b> Unique Postings (Aug 2015) 38 Total Postings	<b>6 : 1</b> Posting Intensity (Aug 2015) Regional Average: 5 : 1
---	---

## Occupation Gender Breakdown

	Gender	2015 Jobs	2015 Percent
●	Males	191	65.5%
●	Females	101	34.5%

## Occupation Age Breakdown

	Age	2015 Jobs	2015 Percent
●	14-18	0	0.0%
●	19-24	61	21.0%
●	25-34	116	39.6%
●	35-44	65	22.2%
●	45-54	29	9.9%
●	55-64	18	6.2%
●	65+	3	1.1%

## Occupation Race/Ethnicity Breakdown

	Race/Ethnicity	2015 Jobs	2015 Percent
●	White	206	70.7%
●	Hispanic or Latino	61	20.9%

•	Asian	9	3.1%
•	Black or African American	7	2.4%
•	Two or More Races	6	2.1%
•	American Indian or Alaska Native	2	0.7%
•	Native Hawaiian or Other Pacific Islander	0	0.1%

## National Educational Attainment

	Education Level	2015 Percent
•	Less than high school diploma	0.9%
•	High school diploma or equivalent	14.7%
•	Some college, no degree	49.4%
•	Associate's degree	19.7%
•	Bachelor's degree	12.9%
•	Master's degree	2.1%
•	Doctoral or professional degree	0.3%

## Occupational Programs

2 Programs (2014)	161 Completions (2014)	17 Openings (2014)
CIP Code	Program	Completions (2014)
51.0904	Emergency Medical Technology/Technician (EMT Paramedic)	125
51.0000	Health Services/Allied Health/Health Sciences, General	36

## Industries Employing Emergency Medical Technicians and Paramedics

Industry	Occupation Jobs in Industry (2015)	% of Occupation in Industry (2015)	% of Total Jobs in Industry (2015)
Ambulance Services	194	66.5%	50.9%
Local Government, Excluding Education and Hospitals	53	18.2%	0.4%
General Medical and Surgical Hospitals	19	6.4%	0.3%
Hospitals (Local Government)	13	4.6%	0.4%
Crop Production	<10	1.0%	0.0%

## Appendix A - Data Sources and

# Calculations

## Occupation Data

EMSI occupation employment data are based on final EMSI industry data and final EMSI staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level EMSI earnings by industry.

## Location Quotient

Location quotient (LQ) is a way of quantifying how concentrated a particular industry, cluster, occupation, or demographic group is in a region as compared to the nation. It can reveal what makes a particular region unique in comparison to the national average.

## Job Postings Data

In partnership with EMSI's parent company CareerBuilder and other third party aggregators, EMSI collects its job postings data by scraping approximately 30,000 websites. EMSI then cleans the data and applies a two-step deduplication process to present an estimate of total unique postings. Normalization of data fields is performed using machine-learning technologies, which leverage not just job postings data but also CareerBuilder's extensive database of résumés and profiles.

## Institution Data

The institution data in this report is taken directly from the national IPEDS database published by the U.S. Department of Education's National Center for Education Statistics.

## Completers Data

The completers data in this report is taken directly from the national IPEDS database published by the U.S. Department of Education's National Center for Education Statistics.

## Staffing Patterns Data

The staffing pattern data in this report are compiled from several sources using a specialized process. For QCEW and Non-QCEW Employees classes of worker, sources include Occupational Employment Statistics, the National Industry-Occupation Employment Matrix, and the American Community Survey. For the Self-Employed and Extended Proprietors classes of worker, the primary source is the American Community Survey, with a small amount of information from Occupational Employment Statistics.

## Industry Data

EMSI industry data have various sources depending on the class of worker. (1) For QCEW Employees, EMSI primarily uses the QCEW (Quarterly Census of Employment and Wages), with supplemental estimates from County Business Patterns and Current Employment Statistics. (2) Non-QCEW employees data are based on a

number of sources including QCEW, Current Employment Statistics, County Business Patterns, BEA State and Local Personal Income reports, the National Industry-Occupation Employment Matrix (NIOEM), the American Community Survey, and Railroad Retirement Board statistics. (3) Self-Employed and Extended Proprietor classes of worker data are primarily based on the American Community Survey, Nonemployer Statistics, and BEA State and Local Personal Income Reports. Projections for QCEW and Non-QCEW Employees are informed by NIOEM and long-term industry projections published by individual states.

## **State Data Sources**

This report uses state data from the following agencies: California Labor Market Information Department

Practical Exam Grading Rubric

	90-100%	80-89%	70-79%	<70%
Assessment	Performs assessment in a time efficient and orderly manner. Identifies the specific patient problem(s).	Performs assessment in a somewhat orderly manner and meets minimum time standards. Identifies the area of the problem but may not directly identify the specific patient problem(s).	Performs assessment in a disorganized manner and/or failed to recognize the category of the problem(s) with the patient.	Performs assessment in a disorganized manner missing major components of the assessment. Fails to recognize the category of patient problem(s). Has a critical failure point.
Communications	Clearly and effectively communicates with the patient, skills instructor, partners, and/or others in the scenario based examination at a level to complete the assessment(s), provide leadership and direct the interventions to be performed.	Communicates in a limited but effective manner with the patient, skills instructor, partners, and/or others in the scenario based examination at the minimum level to complete the assessment(s), provide leadership and direct the interventions to be performed.	Communicates in a somewhat limited with limited effectiveness with the patient, skills instructor, partners, and/or others in the scenario based examination to complete the assessment(s), provide leadership and direct the interventions to be performed.	Communicates ineffectively with the patient, skills instructor, partners, and/or others in the scenario based examination failing to complete the assessment(s), provide leadership and/or direct the interventions to be performed.
Leadership	Directs the scene, assessment(s), intervention(s) and patient management effectively without delay.	Directs the scene, assessment(s), intervention(s) and patient management effectively with minimal delay.	Directs the scene, assessment(s), intervention(s) and patient management effectively with significant delay.	Fails to direct the scene, assessment(s), intervention(s) and patient management effectively.
Interventions	Directs providers to or personally applies interventions effectively, timely, and re-evaluates effectiveness of intervention(s) timely based upon patient condition.	Directs providers to or personally applies interventions effectively, timely, and re-evaluates effectiveness of intervention(s) with minimal delay based upon patient condition.	Directs providers to or personally applies interventions effectively, timely, and re-evaluates effectiveness of intervention(s) with significant delay based upon patient condition.	Fails to direct providers to or fails to personally apply interventions effectively, timely, and re-evaluates effectiveness of intervention(s). Has a critical failure point.

Critical Failures



## Sample Questions:

Ischemic heart disease is MOST accurately defined as:

- A. absent myocardial blood flow due to a blocked coronary artery.
- B. decreased blood flow to one or more portions of the myocardium. 47/58 81%
- C. death of a portion of the heart muscle due to a decrease in oxygen.
- D. decreased blood flow to the heart muscle due to coronary dilation.

When obtaining medical history information from the family of a suspected stroke patient, it is MOST important to determine:

- A. when the patient last appeared normal. 54/58 93%
- B. if there is a family history of a stroke.
- C. if the patient has been hospitalized before.
- D. the patient's overall medication compliance.

Cardiac arrest in the pediatric population is MOST commonly the result of:

- A. a complete airway obstruction.
- B. respiratory or circulatory failure. 52/58 90%
- C. a congenital cardiovascular defect.
- D. lethal cardiac rhythm disturbances.

A 60-year-old male is found to be unresponsive, pulseless, and apneic. You should:

- A. start CPR and transport immediately.
  - B. withhold CPR until he is defibrillated.
  - C. determine if he has a valid living will.
  - D. begin CPR until an AED is available. 45/58 80%
- Total 87%

## Sample scenarios

**Scenario:** You and your partner respond to a reported auto-vs-auto with ejections.

P - need to confirm PPE in place

E - no hazards

N - one patient

M - ~ 17y/o was ejected from the front passenger seat at ~ 55 mph and was thrown 40 feet

A - MOI = request ALS

N - no extrication needed

General Impression – **Pale and wet with cyanosis around to the lips and obvious facial trauma**

Visual Scan for bleeding - **blood is flowing from a large 3 inch frontal head laceration.**

Mental Status - **Unconscious and groans to pain**

C-Spine – Manually Immobilized

Airway – **partially** – Jaw thrust – OPA – No gag

Breathing – **slow, irregular, shallow respirations with obvious gurgling** - Suction

Circulation - **rapid rate, regular rhythm and thready quality, cool to touch**

Determine priority – High – shock – inadequate breathing, thermal regulation

Head - **Moderate bleeding from large 3 inch frontal head laceration, swelling to right face, eye and ear.**

**Crepitus/instability to zygoma**

Neck – J V D -**flat** T D - **midline** Stoma - **none** SQE - **none** Med Alert - **none**

Chest – **Abrasions to right chest. Patient groans upon palpation to the right mid-anterior chest with**

**Crepitus/Instability to the same area.**

Lung Sounds - **Equal with each ventilations**

Abdomen – **Abrasions to right ABD no response to palpation**

Pelvis - **Groans to pelvis push Incontinent of urine No Priapism**

Lower Extremities – **Crepitus Right Femur** (closed)

Upper Extremities - **Multiple abrasions**

Back - Log-rolled onto uninjured side (Left) with manual c-spine immobilization appropriately -

Ongoing assessment – uses initial assessment, v/s, intervention evaluation and notifies hospital

**Critical Failures (does not complete):**

Manage bleeding

Manual cervical spine immobilization

Jaw thrust

Suction with rigid device no longer than 15 seconds.

OPA

Ventilate with correct device/rate/Oxygen

Need to consider ALS, complete Rapid Trauma Assessment

Full spinal immobilization

PMSC before and after spinal immobilization

Recognize high priority

**Scenario:** You are the patient care EMT in an ambulance transporting a patient to the hospital. You have a firefighter with you. Your patient had an earlier complaint of chest pain at an 8 on a 0-10 scale with dyspnea. You have him sitting up on a gurney with 15 lpm oxygen via non-rebreather mask. Initial vitals were: B/P 156/92, PR – 84 S & R, RR – 20, pupils – PERRL, Skins – pale/cool/diaphoretic.

P, E– you have your PPE on and your patient is sitting up on your gurney

N – single patient, M.O.I./N.O.I – Unprovoked non-radiating stabbing sub-sternal CP

A – ALS is not available N - none

General Impression – Pale face and wet skin

Bleeding – none

Mental Status – **You look over and notice your patient closes his eyes and stops moving as his head falls forward**

Position patient supine

Circulation – Looks for indicators of breathing and checks a pulse. – should check Carotid

**NO PULSE** - Witnessed arrest – AED should be applied immediately (with CPR if a delay in AED access)

Should follow prompts of AED                      Touches patient during analysis

Defibs without verbally clearing patient      Shuts off or removes the AED

Places pads inappropriately                      Doesn't stop ambulance to reanalyze

Should Perform CPR post defibrillation(s) 30:2 at 100 compressions per minute

AED will reanalyze at 2 minutes – (as above for analyzing) with **“NO SHOCK ADVISED”**

General impression - **Skin is starting to pink up but still unconscious. You can see a pulsation in the neck but no other movement?**

Circulation – Looks for indicators of breathing and checks a carotid pulse.

**Pulse is present and at a normal rate**

Airway – **Closed with secretions**                      Must open airway HTCL suction

Breathing — Should provide positive pressure ventilations at 1 breath every 5-6 seconds and obtain a B/P

Re-determine priority – still high – pulmonary arrest – need to consider ALS if not already done

Re-evaluate using primary assessment, Notify the hospital, update vital signs, reassess interventions

**Critical Failures (does not complete):**

Recognize high priority

Need to consider ALS, complete Focused Assessment

Pulse check – at carotids, 5 no more than 10 seconds

Start 1-person CPR if a delay in AED access

Follow the AED prompts

Stop the ambulance

Restart transport after shocking

Suction airway PRN

Recognize non-breathing

Positive pressure ventilate with OPA at appropriate rate with O<sub>2</sub> @ 15 lpm

Reassess vitals

Notify the hospital