



The EMS Advisory Committee and local employers provide feedback and input into the development of the program.

The last accreditation visit by the Department of Public Safety was in 2004. The EMS program received the maximum three-year accreditation. The next accreditation visit is scheduled for 2007. As of the writing of this document, the EMS department is preparing for its 2007 site visit. All indications reveal the department should be reaccredited without stipulation.

- \* Note: Every department is required to review Master Syllabi and Program Learning Outcomes a minimum of every two years.

**II. Program Learning Outcomes:** A description of what you intend for students to know (cognitive), think/feel (affective), or do (psychomotor), when they have completed your degree program. A suggested manageable number of outcomes should be in the range of five to ten. Describe Program Learning Outcomes review activities\*.

An entry-level EMT-Paramedic who has successfully completed the Paramedic Certification Program at Sinclair Community College will be able to:

<b>Learning Outcomes</b>	<b>Related Courses</b>
1. Demonstrate the ability to comprehend, apply, and evaluate information relevant to the job description of an entry-level Emergency Medical Technician-Paramedic.	EMS 135, 136, 137, 138, 139
2. Demonstrate the ability to proficiently perform all procedures relevant to the job description of an entry-level Emergency Medical Technician-Paramedic.	EMS 135, 136, 137, 138, 139
3. Demonstrate personal behaviors and attitudes consistent with and appropriate to the delivery of prehospital emergency medical care.	EMS 135, 136, 137, 138, 139

**III. Assessment Method(s):** A measurable indicator of success in attaining the stated learning outcome(s). The methodology should be both reliable and valid. Please describe in detail.

- a. Formative Assessment Methods(s) and Description: a measurable indicator of student in-progress success in attaining the stated learning outcome(s).

There are three main areas where formative assessment is accomplished during paramedic level education: Lecture, Laboratory and Clinical Setting. All five quarters of the paramedic program have these three attributes present.

The lecture environment within every paramedic course assesses primarily student knowledge. Students must achieve a 78% or higher average each quarter on written examinations. Topic oriented tests constitute 45%, quarterly final exams constitutes 40% and other projects constitute the remainder. Demonstrated professional behavior is required during classroom and laboratory sessions. Attendance, attitude, and completion of assignments demonstrate professional behavior in this setting.

The laboratory setting assesses students' knowledge and skills as they pertain to simulated environments. Demonstrated proficiency of mandated practical skills is required in the laboratory prior to performance in the clinical setting each quarter. Proficiency in a skill is defined as the correct performance of all critical steps in the proper sequence within a prescribed time frame. Demonstrated professional behavior is required during classroom and laboratory sessions. Attendance, attitude, and completion of assignments demonstrate professional behavior in this setting. Minimum skill performances are required prior the beginning of clinical activity.

The clinical setting assesses the appropriate application and synthesis of knowledge and skills into real patient care situations. Ongoing student progress is monitored by the faculty by reviewing the clinical record book which identifies satisfactory and unsatisfactory behaviors and skills. If problems are observed by the faculty a counseling session is scheduled with the student. A portion of clinical activity is scheduled within every course throughout the curriculum. Thus, students are involved in a clinical experience every quarter. Demonstrated professional behavior is required during hospital/field clinical practicums. Professional behavior in the clinical setting is demonstrated by attitude, appearance, interaction with other health care workers and patients, and completion of assignments.

The clinical environment is constructed to ensure that each student is exposed to a minimum number of skills and patient contacts. The department has abandoned a pure hours basis system in favor of this contact based system. By ensuring the parallel nature of the clinical activity, the information provided by the clinical settings now better meets the needs of the graduate students. Students are more rounded and sufficiently homogenous.

- b. **Summative Assessment Method(s) and Description:** a measurable indicator of end-of-program success in attaining the stated program learning outcome(s).

EMS 139, Paramedic Theory and Practice V, a seven-credit-hour course, is required of every EMS student. A comprehensive final is required and students must achieve a 70% or higher level of mastery.

#### Comprehensive Final

This exam was constructed to mimic the students' certification examination. It is 240 questions in length and covers 6 separate sections. The final is designed to evaluate students at the higher ends of the cognitive domain. Construction of this exam is now in its 140<sup>th</sup> plus hour. To ensure a predictable product, questions are screened, difficulty determined and then the final product is apportioned to reflect the certification examination. The comprehensive final has 10% difficult, 55% moderate, and 35% easy questions. The degree of difficulty is determined by item analysis. All questions are multiple choice format.

Questions are geared to determine appropriate evaluation and synthesis of patient care knowledge that has been obtained throughout the past 15 months. The examination has been determined to be predictive related to student's future behaviors on their certification exam. The department is now in its 9<sup>th</sup> version of the exam.

#### Practical Final

In addition to the comprehensive written final, students must demonstrate proficiency and integration of mandated skills during the comprehensive practical examination at the completion of EMS 139. During this practical evaluation, students must control and direct a team of care providers to deliver appropriate medical care, perform a randomly selected set of isolated skills, and manage complex patient scenarios.

In 2006, all students were required to pass through an assessment process with the medical director. This simulation / dialectic based evaluation involves 4 students with the medical director for 1 hour. Simulations are presented, questions asked and knowledge / skill exploration conducted. The medical director then determines if the student has attained exit level knowledge / skill competency.

#### Clinical Evaluation

Clinical documents required involve patient management and ambulance run report forms. Students work with preceptors within the clinical setting to integrate knowledge and skill during the creation of treatment plans and differential diagnosis. During EMS 139, all students are required to have an EMS faculty member from Sinclair present in the ambulance to conduct a summative clinical evaluation.

Clinical activity within the EMS department occurs in any of 15 hospital and 60+ fire/EMS departments within a 30 mile radius. With such a large catchment area, students conduct their clinical education with onsite, non-paid preceptors. These individuals are employees of the facility and graciously agree to tutor EMS students. This system creates wonderful flexibility for the students and a very diverse knowledge base for the students to tap. It also creates a great deal of inconsistency within the students' evaluation. To compensate, the capstone EMS faculty evaluation was added in 2006 to ensure that all students have attained exit level clinical competencies.

#### Feedback

The EMS program receives feedback about the results from the National Registry Examination. This includes results on a cognitive and a practical examination.

The current first time pass rate for the EMT-Paramedic program, cognitive evaluation is 75% (06/04 to 11/06 courses). Benchmarks are as follows:

State minimal requirements = 65%

National Average first time pass rate = 62% (2006)

Overall state of Ohio first time pass rate = 63% (2005)

The current first time pass rate for the EMT-Basic program is 83% (2004 – 2006 courses). Benchmarked at a national average first time pass rate of 71% (2006)

The faculty solicits informal dialogue with current students and feedback from Advisory Committee Members.

“Graduates” of the Paramedic Certification Program must achieve an overall passing grade on the written certification examination with acceptable subset scores. Graduates of the Paramedic Certification Program must successfully complete the practical portion of the certification examination.

#### **IV. Results:** A description of the actual results of overall student performance gathered from the summative assessment(s). (see III.b.)

Attrition in EMS is approximately 40-50. Within the paramedic course structure, EMS 136 has the highest attrition rate. Students are unsuccessful typically due to the depth and complexity of the material presented.

Students who are marginally successful within EMS 135 tend to have difficulties in 136. These students are advised about the need to allocate more time and resource to be successful. They are also advised of the faculty and facility resources that are available within the EMS department.

Starting Spring of 2007, all returning students are required to attend a reinstatement meeting with a faculty member. The purpose of this meeting is to evaluate the issues surrounding the student's past failure and make appropriate plans to mitigate those effects in the future. What has been learned from one quarter of these meeting is students are not dedicating sufficient time / energy to the acquisition of EMS knowledge.

When examining national testing results, medical emergencies and cardiology are the 2 areas where students have the lowest scores. To assist, students are given review sessions over each of the 6 sections of the cognitive examination prior to testing. During the practical evaluation, cardiology and medical emergencies again are the most troublesome areas.

Cohort	# Students Entering EMS 135	# Students Completing EMS 139	# Students passing certification examination (All Attempts)
2007	139	In progress	In progress
2006	140	67	64 (96%)
2005	110	75	75 (100%)
2004	127	76	74 (97%)
2003	135	96	95 (99%)
2002	86	49	49 (100%)
2001	133	71	65 (92%)

- Cohort = The year in which the class would complete its paramedic education.
- # of students entering = # recorded in colleague for EMS 135 (14<sup>th</sup> day data)
- # of students completing = those students who finished EMS 139 and sat for at least one national testing attempt. This number includes students from the original cohort and students who have been transplanted into that cohort due to needing to retake a course(s) during the sequence.

V. **Analysis/Actions:** From analysis of your summative assessment results, do you plan to or have you made any adjustments to your program learning outcomes, methodologies, curriculum, etc.? If yes, describe. If no, explain.

The comprehensive final has been retooled to more accurately reflect the certification exam. Complexity of questions has been increased to more appropriately stress the students. Students are now evaluated at the analysis and synthesis levels of the cognitive domain. The national testing agency's exam is geared to this level of evaluation.

The clinical environment has been retooled in an attempt to ensure parallel learning and reward student engagement. Traditionally, paramedic programs require students to conduct so many hours within a variety of clinical settings.

The system in place now focuses on contacts with patients instead of hours accomplished. Assertive students are able to finish their clinical experience in a timelier manner. This process also requires each student's experiences to be very similar.

**VI. General Education:** A description of where and how within the major the three primary general education outcomes\* (communication, thinking, values/citizenship/community) are assessed.

- a. Where within the major do you assess written communication? Describe the assessment method(s) used. Describe assessment results if available.

Written skills are reinforced through team projects and simulations that emphasize interactions with patients and field workers. Written communication is reinforced within every EMS class through the critique of patient assessment forms and ambulance run reports. Students are assessed on their progress in effectively being able to write their observations and actions related to patient contacts.

Programmed learning packets have been introduced to EMS 135, 136, 137, 138, and 139. The goal is to encourage mastery of writing skills and teamwork skills. These packets require the student to research various subjects and then deliver their findings. Findings may be delivered through take home quizzes, oral presentations, or written reports.

- b. Where within the major do you assess oral communication? Describe the assessment method(s) used. Describe assessment results if available.

Diagnosis games. These are activities within the classroom where a scenario is generated for the class. The group is then allowed to ask any question they deem appropriate. Answers are then created to assist and confound the student (in an attempt to recreate real patient interactions). As the dialog continues, students are able to see how one question leads to another and how a series of questions can lead to incorrect conclusions. At the end of the activity, students are asked to list three possible causes of the patient's problems and what information within the assessment led them to that conclusion.

Oral communication skills are reinforced through team projects and simulations that emphasize interactions with patients, field workers, and verbal communication skills through use of the "two-way radio".

Within the lab and clinical setting, student work in teams to manage patient care activities. EMS is heavily reliant on the skills of providers to effectively assimilate and process information, formulate decisions, communicate those decisions, enact care and then evaluate its effectiveness.

- c. Where within the major do you assess thinking? Thinking might include inventing new problems, seeing relationships and/or implications, respecting other approaches, demonstrating clarity and/or integrity, or recognizing assumptions. Describe the assessment method(s) used. Describe assessment results if available.

Thinking skills are reinforced through fact-finding, history, diagnosis, and developing a treatment plan, and assessment and management of patient needs. The EMS department focuses heavily on thinking skills. Students are constantly presented with new and more complicated patient scenarios to solve. These skills are required within the lecture, laboratory and clinical settings.

- d. Where within the major do you assess values/citizenship/community? These activities might include behaviors, perspective, awareness, responsibility, teamwork, ethical/professional standards, service learning or community participation. Describe the assessment method(s) used. Describe assessment results if available.

Values are reinforced through discussion of the diversity of various ethnic backgrounds. Ethic considerations and value judgments are discussed and students have to learn how to put aside their own biases, etc. Every EMS course touches on ethical considerations and values. Students explore their own values and must learn how to be relatively objective.