

**EMT TECHNICIAN CERTIFICATE**  
**2016-2017**

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**HOURS OF INSTRUCTION:**

Weekly timetable will be distributed the first day of class.

**COURSE DESCRIPTION:**

**EMT 400 - Integrated Theory**    6 credits    128 hours

This course provides the theory needed for an Emergency Medical Technician. Students integrate theory in the areas of communication, legal and ethical issues, medications, and anatomy and physiology into the essentials of pre-hospital care in order to prepare them for the primary care they will provide as EMT's.

*Co-requisites: EMT 406, EMT 407*

**EMT 400 – Integrated Theory** is comprised of five modules that occur over nine weeks and provide the theoretical foundation needed for an EMT.

1. Anatomy and Physiology Module
2. Communications Module
3. Introduction to Medications Module
4. Legal and Ethical Issues Module
5. re-hospital Essentials Module

**COURSE TEXTBOOKS:**

Bledsoe, B., Porter, R., Cherry, R., & Clayden, D. (2006). *Essentials of Paramedic Care, Volume 1 (Canadian Edition)*. Prentice Hall: Toronto.

Bledsoe, B., Porter, R., Cherry, R., & Clayden, D. (2006). *Essentials of Paramedic Care, Volume 2 (Canadian Edition)*. Prentice Hall: Toronto.

Campbell, J. E. (2007). *International Trauma Life Support for Prehospital Care Providers (5<sup>th</sup> Ed.)*. Prentice Hall: New Jersey.

Martini, F.H. & Bartholomew, E.F. (2007). *Essentials of Anatomy and Physiology (4th Edition)*. Prentice Hall: San Francisco.

Venes, D. (2005). *Taber's Cyclopedic Medical Dictionary (21<sup>st</sup> Edition)*. F.A. Davies Company: Philadelphia.

### ANATOMY AND PHYSIOLOGY MODULE

#### Module Description:

An EMT must have a basic understanding of human body structure and of how the human body functions. This knowledge allows an EMT to make informed pre-hospital assessments and treatment decisions when patients are in distress. This module will introduce the normal functioning components of the human body. The student will apply this knowledge to all assessment and treatment skills.

#### Module Outcomes:

Upon completion of this module the student will be able to:

1. Describe how the body attempts to maintain homeostasis
2. Describe the organization of the human body
3. Explain the relationship between cells, tissues, organs and systems
4. Recognize the links between structure and normal body function for major organs in each body system
5. Relate anatomy and physiology knowledge to EMT skills
6. Use technical vocabulary and medical terminology related to anatomy in written and verbal communication.

#### Evaluation:

- One multiple choice exam worth 10% of the overall mark in EMT 400 course.

#### Module Resources:

##### Internet Sources

Organization	Description	URL
Access Excellence A National Health Museum	The Site for health and bio- science teachers and students	<a href="http://www.accessexcellence.org/">http://www.accessexcellence.org/</a>
Visible Human Cross Section	A really neat site for seeing into the body	<a href="http://www.meddean.luc.edu/lumen/Med/Ed/Gross/Anatomy/cross_section/index.html">http://www.meddean.luc.edu/lumen/Med/Ed/Gross/Anatomy/cross_section/index.html</a>
Think Quest – “Welcome to nature’s best – Human body”	Body systems	<a href="http://library.thinkquest.org/2935/">http://library.thinkquest.org/2935/</a>
Instant anatomy	Illustrations of the Human body	<a href="http://www.instantanatomy.net/anatomy.html">http://www.instantanatomy.net/anatomy.html</a>
Myhealthscore.com	Human Anatomy Online	<a href="http://www.innerbody.com/htm/body.html">http://www.innerbody.com/htm/body.html</a>
Anatomy Atlas	Atlas of Human Anatomy	<a href="http://www.anatomyatlases.org/atlasofanatomy/index.shtml">http://www.anatomyatlases.org/atlasofanatomy/index.shtml</a>
Pearson	Essentials of Paramedic Care	<a href="http://wps.prenhall.com/ca_ph_bledsoe_ess_1">http://wps.prenhall.com/ca_ph_bledsoe_ess_1</a>

**COMMUNICATIONS MODULE****Module Description:**

An EMT must have a basic knowledge of human body structure and of how the human body functions. This knowledge allows an EMT to make informed pre-hospital assessments and treatment decisions when patients are in distress. This module will introduce the normal functioning components of the human body. The student will apply this knowledge to all assessment and treatment skills.

**Module Outcomes (NOCP Competencies/AOCP Competencies)**

Upon completion of this module the student will be able to:

1. Describe how the body attempts to maintain homeostasis. ( 4.4b,d,e; 4.5a) (A-2-1; A-2-2)
2. Describe the organization of the human body. (4.4a,b,c,d,h) (A-2-1; A-2-2)
3. Explain the relationship between cells, tissues, organs and systems ( 4.4b,d,e; 4.5a,c) (A-2-3; A-2-4)
4. Recognize the links between structure and normal body function for major organs in each body system. (4.4a,c, b,d,e,g,h,i; 4.5a,c,l; 6.2 b, c ) (A-2-4 to 12; A-3-1; A-3-2)
5. Relate anatomy and physiology knowledge to EMT skills (4.4 a,b,c,d,e,f,g,h; 4.5 b,l) (A-2-4 to 12)
6. Use technical vocabulary and medical terminology related to anatomy in written and verbal communication. (1.1b; 2.1a,b,g; 2.2a,b) (A-1-1 to 4)

**Module Evaluation:**

Evaluation: Integrated Assignment Essay

Assignment is worth 15% of the overall mark in EMT 400 course.

### INTRODUCTION TO MEDICATIONS MODULE

#### Module Description:

The responsibility of administering medications requires an EMT to exercise skill, knowledge, and judgment. Focusing on patient safety, students will be introduced to the pharmacokinetics, pharmacotherapeutics, and safe administration techniques to each of the drugs for which an EMT is responsible.

#### Module Outcomes (NOCP Competencies/AOCP Competencies)

Upon completion of this module the student will be able to:

1. Demonstrate an understanding of the basic concepts related to the pharmacodynamic principles underlying drug action in the human body. (5.8a) (G-1-5)
2. Demonstrate an understanding of the basic pharmacokinetic principles related to movement of drugs within the human body (5.8a,b,c,d,h,j,l) (A-4-5; G-1-5)
3. Demonstrate an understanding of the classification, nature, properties, and effects of drugs. (5.5c, 5.8a,c,d,h,j,l) (A-4-1; A-4-3; A-4-4; A-4-6; A-4-7; A-4-9 to 14; G-1-2; G-8-1)
4. Demonstrate an understanding of the role of the EMT in ethical drug administration (5.8 a-b) (A-4-2; A-4-15; G-1-3; G-1-5)
5. Understand and perform safe medication administration (5.8a-d, 5.8.g,h,j,l) (A-4-8; A-4-15; A-6-8; B-9-1; G-1-2,3,4,6; G-2-1 to 6; G-3-1 to 7; G-4-1 to 8; G-5-1 to 6; G-6-1 to 8; G-7-1 to 6; G-8-1 to 10)

#### Module Evaluation:

1. One multiple choice final exam – worth 10%
2. Integrated Assignment - worth 10%

The Medication module is worth 20% of the overall mark in EMT 400 course.

#### Module Resources:

##### Internet Sources

Organization	Description	URL
Merck	General resource for issues on medicine	<a href="http://www.merck.com">www.merck.com</a>
Medline Plus Health Information	National Library on Medicine and National Institutes of Health (USA)	<a href="http://www.nlm.nih.gov/medlineplus">www.nlm.nih.gov/medlineplus</a>
Alberta College of Paramedics	Gap training module - Pharmacology	<a href="http://www.collegeofparamedics.org/acp_downloads/continuing_competency_modules/EMTPharmacology.pdf">http://www.collegeofparamedics.org/acp_downloads/continuing_competency_modules/EMTPharmacology.pdf</a>

**LEGAL AND ETHICAL ISSUES MODULE****Module Description:**

Understanding the legalities and the ethical issues that confront EMT's is a critical area of importance. Before practicing as an EMT, students need to consider how Canadian and Alberta legislation affects patient care. In this module, the learner will have an opportunity to relate legal and ethical issues to his/her future practice in EMS.

**Module Outcomes:** (NOCP Competencies/AOCP Competencies)

Upon completion of this module the student will be able to:

1. Understand and undertake the role of a professional EMT (1.1a,b,c,d; 1.6c) (A-11-10; K-2-1; K-2-2; K-2-4; K-5-1; K-7-1 to 5)
2. Understand and utilize provincial and federal legislation as it relates to practice. (1.1.e; 1.1.j; 1.3.a, b; 1.4.a) (A-5-1 to 17; A-8-1; A-8-5 to 9; A-11-1 to 8; B-7-1,2; K-1-1 to 3; K-2-1)
3. Understand and implement appropriate scope of practice for an EMT (1.3.a,c; 1.6a,b) (A-8-2 to 4; A-11-3,4,6 to 10; K-1-1 to 3; K 2-1)
4. Demonstrate knowledge of professional development activities and currency of practice (1.1.f; 1.1.h; 1.2.a,b,c) (K-2-3; K-4-1 to 5)
5. Understand and discuss patient's rights and EMT responsibilities of patient advocacy (1.1.d; 1.1.k; 1.3.b; 5.8b) (A-11-7; 8, 11,12; K-2-2; K-2-4)
6. Explain and demonstrate ethical behavior (1.1.e, 1.1.j; 1.6.a,b; 5.8b) (A-11-11; K-2-3; K-3-1,2,3; K-5-1)
7. Work collaboratively and cooperatively with other members of the health care team (1.1g; 1.5a b,c,d; 1.6c) (A-9-1 to 3; K-3-3 ,4; K-5-1; K-6-1 to 3; K-7-1 to 5)

**Module Evaluation:**

Ethical Debate	5%
Legal & Ethical Integrated Assignment	5%

Both are worth 10% of the overall mark in EMT 400 course.

**Module Resources:**

The learner is to use resources found in and around their community. The resources will depend on the debate/research subject. Examples are:

- Internet
- Keyano College Library
- Community Library
- Family Community Support Services
- Public Health Office

**PRE-HOSPITAL ESSENTIALS MODULE****Module Description:**

In this module, through a series of eleven comprehensive lessons, the student will learn the essential theoretical knowledge required of an EMT practitioner. Students will participate in opportunities to apply their knowledge to skills practice in the classroom/lab setting.

Note: Students will participate in lectures, group discussions, and independent learning practices to help them prepare to work as an EMT. During class time, instructors will provide direction to students, however, the expectation is that students will work together outside of class time to complete the learning activities found in each lesson.

**Module Outcomes:** (NOCP competencies/ACP competencies)

Upon completion of this module the student will be able to:

1. Demonstrate knowledge of appropriate techniques (inspection, palpation, percussion, and auscultation) related to objective assessments of all body systems. (4.3.a,b,c,d,e; 4.3.g-n; 4.4.a,f,g,h,I; 6.2.d,e) (E-1-1 to 3; E-2-1 to 5; E-3-1 to 5; E-4-1 to 6; E-5-1 to 4; E-6-1 to 4)
2. Demonstrate knowledge of the specialized assessment techniques related to the pregnant, neonatal, pediatric and geriatric patient.( 4.3.a,b,f, o; 4.4.b,c; 6.2.a,b,c) (D-4-1,2; D-5-1,3; D-6-1 to 4; D-7-2,3,4; H-12-1 to 4; H-13-1 to 4; H -14-1 to 4; H-15-1 to 4)
3. Demonstrate knowledge of the specialized assessment techniques related to the psychiatric patient experiencing crisis and patients experiencing drug overdose. (4.3.p; 6.1.p) (D-8-1 to 8; H-11-1 to 4)
4. Demonstrate ability to consider assessment findings and infer a differential diagnosis.( 4.3.c-p) (H-1-1 to 8)
5. Based on the interpretation of assessment findings and the differential diagnosis, demonstrate decision making skills and knowledge to provide care to a variety of clients across the lifespan. (4.4.b,c; 6.1.a-q; 6.2.a-e) (H-1-1 to 8; H-2-1 to 4; H-3-1 to 4; H-4-1 to 4; H-5-1 to 4; H-6-1 to 4; H-7-1 to 4; H-1-8 to 4; H-11-1 to 4; H-12-1 to 4; H-13-1 to 4; H-14-1 to 4; H-15-1 to 4)
6. Provide basic care for soft tissue injuries. (5.6.a-e) (E-5-1 to 4)

7. Demonstrate knowledge , clinical decision making skills, and ability to provide care for patients experiencing a variety of medical conditions. (6.1.k,m,n; 6.2. b-e) (H-9-1 to 4; H-10-1 to 4; H-16-1 to 4; H-17-1 to 4)
8. Demonstrate ability to distinguish between urgent and non-urgent illnesses and injuries and explain the approach to each patient (6.1.l) (H-1-1,2, 4,8)
9. Demonstrate an understanding and ability to justify approach, assessment, care, and transportation decisions related to patients experiencing traumatic injury. (5.7.a,b; 6.2.b,c,d,e; 6.1.o) (H-1-1 to 8)
10. Demonstrate an understanding of relationship of mechanism of injury to patient condition and care provided. (6.1.a-n) (H-1-1 to 8; H-2-1 to 4; H-3-1 to 4 to H-17-1 to 4)
11. Demonstrate knowledge and ability to protect self and others from communicable disease transmission. (3.3.f-h) (B-1-1, B-8-1 to 3; B-9-1)
12. Demonstrate knowledge and ability to protect self and others from exposure to environmental hazards (3.3.e; 6.1.n) (B-1-1)
13. Demonstrate knowledge, clinical decision making skills, and understanding of how to triage multiple casualty situations and situations where there is only one patient. (4.1.a,b) (H-18-1 to 4)
14. Demonstrate understanding of safety and knowledge specific to fixed wing and rotary wing aircraft specific to patient transportation. (7.3.a-c; 7.4.a-b)(J-2-1 to 7; J-3-1 to 7)
15. Recognize stress indicators, coping strategies and an understanding of the Critical incident Stress Management System (CISM). (3.1c) (A-10-1 to 10)
16. Demonstrate knowledge of specific illnesses, injuries and complications related to all body systems, across the lifespan. (4.3.c,d-p; 4.4.h) (A-3-3, 4)

**Module Evaluation:**

Four multiple choice exams (covers all material covered in the Essential 400 modules)

- One multiple choice exam worth 5%
- Second multiple choice exam worth 5%
- Third multiple choice exam worth 15%
- Final Exam (**comprehensive**) multiple choice worth 20%

All four essentials exams are worth 45% of the overall mark in EMT 400 course.



EMT 400  
Integrated Theory

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**AUTHORIZATIONS:**

This course outline has been reviewed and approved by the Program Chair.

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*Patricia Penton, Program Coordinator*

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Bev Maron, Chair

Date Authorized

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Vincella Thompson, Dean

Date Authorized

**Signed Copies To Be Delivered To:**

Instructor

Registrar's Office