Virginia CTE

Introduction to Health and Medical Sciences (8302- 36 weeks)

Introduction to Health and Medical Sciences (8302- 36 weeks) IHMS

1 **Demonstrate creativity and innovation.** IHMS.1

2 **Demonstrate critical thinking and problem solving.** IHMS.2

3 **Demonstrate initiative and self-direction.** IHMS.3

4 **Demonstrate integrity.** IHMS.4

5 **Demonstrate work ethic.** IHMS.5

6 **Demonstrate conflict-resolution skills.** IHMS.6

7 **Demonstrate listening and speaking skills.** IHMS.7

8 **Demonstrate respect for diversity.** IHMS.8

9 **Demonstrate customer service skills.** IHMS.9

10 **Collaborate with team members.** IHMS.10

11 **Demonstrate big-picture thinking.** IHMS.11

12 **Demonstrate career- and life-management skills.** IHMS.12

13 **Demonstrate continuous learning and adaptability.** IHMS.13

14 **Manage time and resources.** IHMS.14

15 **Demonstrate information-literacy skills.** IHMS.15

16 **Demonstrate an understanding of information security.** IHMS.16

17 **Maintain working knowledge of current information-technology (IT) systems.** IHMS.17

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Demonstrate proficiency with technologies, tools, and machines common to a specific occupation. IHMS.18

19 **Apply mathematical skills to job-specific tasks.** IHMS.19

20 **Demonstrate professionalism.** IHMS.20

21 **Demonstrate reading and writing skills.** IHMS.21

22 **Demonstrate workplace safety.** IHMS.22

23 **Examine aspects of planning within an industry/organization.** IHMS.23

24 **Examine aspects of management within an industry/organization.** IHMS.24

25 **Examine aspects of financial responsibility within an industry/organization.** IHMS.25

26 **Examine technical and production skills required of workers within an industry/organization.** IHMS.26

27 **Examine principles of technology that underlie an industry/organization.** IHMS.27

28 **Examine labor issues related to an industry/organization.** IHMS.28

29 **Examine community issues related to an industry/organization.** IHMS.29

30 **Examine health, safety, and environmental issues related to an industry/organization.** IHMS.30

31 **Identify the purposes and goals of the student organization.** IHMS.31

32 **Explain the benefits and responsibilities of membership in the student organization as a student and in professional/civic organizations as an adult.** IHMS.32

33 **Demonstrate leadership skills through participation in student organization activities, such as meetings, programs, and projects.** IHMS.33

34 **Identify Internet safety issues and procedures for complying with acceptable use standards.** IHMS.34

35 **Identify the types of work-based learning (WBL) opportunities.** IHMS.35

36 **Reflect on lessons learned during the WBL experience.** IHMS.36

37 **Explore career opportunities related to the WBL experience.** IHMS.37

38 **Participate in a WBL experience, when appropriate.** IHMS.38

39 **Highlight the major developments of healthcare history.** IHMS.39

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Differentiate among the types of health insurance. IHMS.40

41 **Differentiate among the types of medical care delivery systems.** IHMS.41

42 **Describe the roles of healthcare team members.** IHMS.42

43 **Differentiate among the scope and functions of the Virginia Department of Health Professions and the Virginia Department of Health.** IHMS.43

44 **Examine the influence of the Internet on the healthcare industry and on the individual consumer.** IHMS.44

45 **Identify common medical prefixes, roots, and suffixes and their meanings, and medical terms related to human systems.** IHMS.45

46 **Describe how word parts are combined to form medical terms.** IHMS.46

47 **Interpret common abbreviations used in the healthcare field.** IHMS.47

48 **Define terminology that relates to the various elements and systems of the body.** IHMS.48

49 **Identify basic anatomical structure and body cavities.** IHMS.49

50 **Identify chemical components of the body.** IHMS.50

51 **Identify the structures and functions of the cell.** IHMS.51

52 **Identify the structures and functions of tissues.** IHMS.52

53 **Identify the structures, functions, and diseases of the integumentary system.** IHMS.53

54 **Identify the structures, functions, and diseases of the skeletal system.** IHMS.54

55 **Identify the structures, functions, and diseases of the muscular system.** IHMS.55

56 **Identify the structures, functions, and diseases of blood.** IHMS.56

57 **Identify the structures, functions, and diseases of the heart.** IHMS.57

58 **Identify the structures, functions, and diseases of blood vessels and blood circulation.** IHMS.58

59 **Identify the structures, functions, and diseases of the lymphatic system.** IHMS.59

60 **Explain immunity and its relationship with the lymphatic system.** IHMS.60

61 **Identify the structures, functions, and diseases of the respiratory system.** IHMS.61

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62 **Identify the structures, functions, and diseases of the gastrointestinal system.** IHMS.62

63 **Identify the structures, functions, and diseases of the endocrine system.** IHMS.63

64 **Identify the structures, functions, and diseases of the reproductive system.** IHMS.64

65 **Identify the structures, functions and diseases of the nervous system.** IHMS.65

66 **Identify the structures, functions and diseases of the urinary system.** IHMS.66

67 **Identify the structures, functions, and diseases of the sensory system.** IHMS.67

68 **Describe specimen preparation and handling.** IHMS.68

69 **Identify the diagnoses, laboratory tests, and procedures used in the treatment for the diseases/disorders of each body system.** IHMS.69

70 **Examine body fluids and cells for bacteria, parasites, and other microorganisms.** IHMS.70

71 **Analyze the chemical content of fluids and tissues.** IHMS.71

72 **Examine cells to determine the quantity of and/or to look for abnormal cells in blood and other body fluids and tissues.** IHMS.72

73 **Assess lab findings, using automated equipment and computerized instruments.** IHMS.73

74 **Document the results of laboratory findings.** IHMS.74

75 **Report lab results to physicians.** IHMS.75

76 **Identify the six essential nutrients, sources, and functions for optimal health and wellness.** IHMS.76

77 **Describe the digestion and metabolism of food.** IHMS.77

78 **Describe dietary guidelines recommended for health promotion.** IHMS.78

79 **Identify the principles of food management and safety.** IHMS.79

80 **Explain basic dietary management techniques.** IHMS.80

81 **Identify common medical conditions related to poor nutrition.** IHMS.81

82 **Identify dietary patterns.** IHMS.82

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Identify general principles of pharmacology. IHMS.83

84 **Describe sources, types, and uses of common drugs.** IHMS.84

85 **Explain the naming processes for drugs.** IHMS.85

86 **Explain the importance of pharmacokinetics.** IHMS.86

87 **Describe the elements of a prescription.** IHMS.87

88 **Explain common abbreviations used on prescriptions.** IHMS.88

89 **Calculate doses of medications.** IHMS.89

90 **Identify drug administration routes.** IHMS.90

91 **Explain the importance of drugs and supplements in preventive medicine.** IHMS.91

92 **Explain current state and federal regulations regarding the practice of pharmacy.** IHMS.92

93 **Summarize the approaches to health care for a variety of patient categories.** IHMS.93

94 **Explain the nature and importance of a medical history.** IHMS.94

95 **Examine concepts of care relating to ethnic, religious, cultural, and personal preferences.** IHMS.95

96 **Explain the principles of effective communication.** IHMS.96

97 **Apply principles of communication in establishing therapeutic relationships.** IHMS.97

98 **Explain the concept and importance of the Patient,Äôs Bill of Rights.** IHMS.98

99 **Explain the function and importance of advance directives for health care.** IHMS.99

100 **Examine the concepts of death and dying.** IHMS.100

101 **Explain the concept of integrated and holistic care.** IHMS.101

102 **Explain the concept of infection control and asepsis.** IHMS.102

103 **Explain the chain of infection.** IHMS.103

104 **Demonstrate hand hygiene procedures.** IHMS.104

Explain transmission-based precautions. IHMS.105

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106 **Demonstrate the use of personal protective equipment (PPE) and safe workplace practices.** IHMS.106

107 **Describe policies and procedures for handling and disposing of infectious and/or hazardous materials.** IHMS.107

108 **Explain sterile processes.** IHMS.108

109 **Identify the importance of the CDC and Occupational Safety and Health Administration (OSHA) guidelines.** IHMS.109

110 **Identify emergency protection areas and devices.** IHMS.110

111 **Explain methods of fire safety.** IHMS.111

112 **Identify environmental hazards.** IHMS.112

113 **Describe the principles of body mechanics.** IHMS.113

114 **Explain radiographic safety.** IHMS.114

115 **Explain the importance of maintaining a safe and clean work environment.** IHMS.115

116 **Explain the process and importance of patient identification.** IHMS.116

117 **Explain the purpose of medical records.** IHMS.117

118 **Identify the components of the electronic medical record (EMR).** IHMS.118

119 **Explain basic traumatic and medical emergency procedures.** IHMS.119

120 **Identify the essential components of disaster planning.** IHMS.120

121 **Identify items found in a basic emergency kit.** IHMS.121

122 **Describe the causes, symptoms, and treatments of selected medical emergencies.** IHMS.122

123 **Demonstrate CPR with the AED.** IHMS.123

124 **Explain the concept of biotechnology.** IHMS.124

125 **Identify the effects of innovations in biotechnology.** IHMS.125

126 **Describe the effects of biotechnology on preventive health care.** IHMS.126

127 **Describe the role biotechnology plays in medical forensics.** IHMS.127

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Identify professional agencies and organizations in the healthcare field and the roles of each. IHMS.128

129 **Examine the legal issues related to the health and medical science profession.** IHMS.129

130 **Explain confidentiality and its connection to HIPAA.** IHMS.130

131 **Analyze the role of public health in providing health care.** IHMS.131

132 **Conduct a self-assessment to determine career interests in the healthcare field.** IHMS.132

133 **Describe the major career fields in health and medical sciences.** IHMS.133

134 **Research selected healthcare career(s).** IHMS.134

135 **Explain the importance of ongoing professional development and methods of attaining ongoing training in the healthcare industry.** IHMS.135

136 **Describe the history and current state of the opioid crisis in the United States.** IHMS.136

137 **Describe the history and current state of the opioid crisis in Virginia.** IHMS.137

138 **Define the pharmacological components and common uses of opioids.** IHMS.138

139 **Examine the science of addiction.** IHMS.139

140 **Explain prevention and early intervention strategies.** IHMS.140

141 **Identify addiction and its behavioral elements, as defined by the Diagnostic and Statistical Manual of Mental Disorders (DSM-5).** IHMS.141

142 **Describe the treatment models of addiction therapy.** IHMS.142

143 **Describe the medication management antidote used to prevent fatal opioid overdoses.** IHMS.143

144 **Explain the science of physiological and mental pain.** IHMS.144

145 **Describe the diagnostic tools used in developing pain management plans.** IHMS.145

146 **Describe pain treatment options available to various populations of patients.** IHMS.146

147 **Describe the effects of opioid dependency on the human body systems.** IHMS.147

148 **Explain the mechanism and physical effects of opioids on the human body.** IHMS.148

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149 **Explain the use of opioids in practice settings, the role of opioids in pain management, and risk factors associated with the use of the medication.** IHMS.149

150 **Describe the withdrawal and tapering side effects of opioid use.** IHMS.150

151 **Describe storage and disposal options for opioids.** IHMS.151

152 **Explain community resources for education about opioid use.** IHMS.152

153 **Describe key communication topics involving opioids for patients.** IHMS.153

154 **Describe communication topics for caregivers and family members.** IHMS.154