- Muscles that move the trunk (flexion/extention)  
- Environmental Conditions (exercise in cold/heat conditions)  
- Heart rate intensity for a cardiovascular program (40%-60% HRR)  
- Know difference between Muscular endurance/power/strength  
- Know Periodization/specificity/overtraining/reversibility   
- Know what type of exercise prescriptions to prescribe to sepcial populations   
- Know plyometrics/PNF/progression  
- Types of learning (visual/auditory/kinesthetic)  
- Know client pre-participation screening procedures  
- Know posture and alignment  
- Anaerobic glycolysis, how it works, what product is made  
- Downhill walking/jogging, what muscle group eccentric activation  
- Know responses to blood pressure (acute/chronic its in the Certification Review Book appendix)  
- Difference between eccentric/concentric contractions  
- Difference between isometric/isotonic contractions  
- Cardiac output = HR x SV  
- Muscle of Rotator Cuff  
S - Suprspinatus - ABducts arm  
I - Infraspinatus  
T - Teres Minor  
S - Subscapularis  
- Variability for any age Max HR - 10-12bpm  
- Know Antagonist and Agonist muscles in simple exercises (leg extension)  
- Know how to calculate HRR and  
[(220-AGE) - resting x %intensity ] + Resting HR  
  
- What a 1RM is  
- Minimum bout daily of aerobic activity (10 min)  
- FITT(E)VP (Frequency/Intensity/Time/Type/Enjoyment/Volume/Progression)  
- Know RISK Stratifications (Age/Family History/Cigarette smoking/Cholestorol/Glucose/BMI/lifestyle)  
- HDL >60 = negative risk factor  
- Sequence for fitness testing (body composition, cardiorepiratory endurance, muscular fitness, flexibility)  
- Know sites for skinfold (know where/diagonally/how many cm away) and how its used  
- Calculate BMI (weight/height^2) x 703 (this is in inches and lbs) and what is BMI  
- Know where to take HR (carotid/radial/femoral/brachial) and the differences between them all  
- Know spotting techniques (barbell squat/shoulder press/lunge etc)  
- RICE (Rest/Ice/Compression/Elevation)  
- Know anatomy of the HEART (also the electrical system SA/VA nodes/perkinje fibers/bundle of his)  
- Unit of muscle contraction (Sacromere)  
- Curves of the vertebrae and any disease (Cervical/Thoracic/Lumbar/Sacral/Coccxy and Scoliosis/Kymphosis/Lordosis)  
- Know what muscles do what (ex. muscle that extends forearm = triceps)  
- Submaximal tests (sit and reach flexion/bench stepping etc)  
- Types of stretches (Static/PNF/Ballistic)  
- Know the joints   
- DOMS (why it happens)  
- What major muscles are used in an exercise (ex. lateral raise = middle delts)  
- Type 1/2 fibers  
- Know the Aerobic/Anaerobic/Oxidative pathways  
- Anatomical Planes   
- Valsalva Maneuver (know what it is and when to use it)  
- Know what Hypertrophy/Hyperplasia/Atrophy is  
- In the GTEP book, know the tables that gives the FITT for resistance/aerobic exercise  
- Karvonen Formulua  
- Special Populations (older adults/children/pregnant - use GTEP for this info)  
- Know why cool-down is important  
- Know circuit training/pyramids/supersets/volume training/interval/split/negative)  
- Know basic calories (fats/carbs/pro) and how to calculate them  
- Know injuries especially shoulder impingement  
- Order of exercise session (Warmup/endurance/cooldown/stretch)  
- Know how to calculate body fat, and desired body fat (202lbs @ 24% --- wants to be 17%)  
- Basic ACSM Recommendations for muscular strength and endurance  
- Know about the Transtheoretical Model  
- Borg Rating Scale  
- METS - (1 MET = 3.5)  
- Know Motivational Strategy  
- Health Belief Model  
- Social Cognitive Theory  
- Attribution  
- Difference between Intrinsic/Extrinsic motivation  
- Hip/Waist Ratio  
- Dehydration   
- How/when to use AED  
- Type 1/2 diabetes, what to do in an emergency  
- Anorexia Nervosa  
- Female Triade  
- BMI ranges  
- Food Pyraimid   
- Fat Soluble Viatmins (ADEK)  
- Negligence and Omission  
- Risk Management  
- Informed Consent  
- Ankle Edema (symptoms)  
- Tachycardia (abnormal HR>100bpm)  
- What HDL does  
- What bronchodilator does  
- Stretching when to inhale and exhale  
- Stroke volume in the supine/prone position  
- What someone with Hip Replacement should not do   
- essential amino acids  
- Altitude (2-5 weeks to adjust to height)  
- HIPPA  
- Asthma (warm air is NOT associated with asthma)