- 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)