Module 1: Biological Theory for Physical Preparation
- *Adaptation and GAS*: Basic theory behind Hans Selye’s GAS, how it applies to physical activity, stress, training, and physical preparation, supercompensation, and fitness-fatigue model
- *Bioenergetics*: Overview of the alactic, lactic, and aerobic energy systems; how they interact, work:rest ratios, the difference between power and capacity for each system, basic substrates involved, etc.
- *Bio-motor abilities*: definitions of motor abilities and how they differ, why they must be developed for athletic performance, and that there is more to performance than strength
- *Biodynamics*: understanding the constituents of movement, kinetics, kinematics, and specificity for sport

Module 2: American Football Requirements
- *Biological Needs*: why football is an alactic-aerobic sport, why it is not lactic, bio-motor needs, etc.
- *Team vs. Team*: each team requires specific programming given its underlying strategies
- *Tactics vs. Tactics*: each team requires specific programming given its tactics.
- *Philosophy vs. Philosophy*: each team requires specific programming given the influence of the team’s philosophy
- *Position vs. Position*: each position requires specific programming to account for the interaction of each dynamic requirement
- *Individual vs. Individual*: every individual requires specific attention to their intricacies

Module 3: Methodology
- *Hi/Low Model*: CNS basis of high/low methodology, Charlie Francis influence, grouping elements into high and low categories, etc.
- *Reciprocity of Training Modes*: explain why some training modes mix together and others do not, give examples of practical applications, etc.
- *Training Effects*: acute, immediate, cumulative, delayed, residual
- *Residual Training Effects*: explain the lasting duration of training effects after cessation of the mode, explain why this must be accounted for in programming.
- *Maximal Output*: Developing the maximal output of abilities in order to reduce the fatigue associated with operational output.
- *Speed Methods*: Resisted, Acceleration, Maximum Velocity sprint progression. Ralph Mann keys to movement, Charlie Francis Short-to-Long, etc.
- *Strength Methods*: Maximal, Sub-Maximal, Dynamic, Repetition Method
- *Stamina Methods*: Circuit, Serial-Repeat, Continuous, etc.

Module 4: Programming
- *Yearly Examples*: In-Season vs. Off-Season
- *Monthly Examples*: Blocks Emphasizing various biological systems and abilities (alactic capacity vs. power, strength blocks, GPP phase, etc.)
- **Weekly Examples**: loading vs. unloading weeks, progressions, organizing a week, etc.
- **Workout Examples**: Typical Hi-Low Structure of a Coach X program (shown below)

**Sunday: Off**

**Monday: CNS High**
- **Warm-Up A**
- **Sprints**:
  Resisted (0-40m) → Acceleration (0-30m) → Maximal Velocity (40-60m) → Flying (5-20m run-up)
  100-300m total volume
- **Jumps**:
  Rudimentary → Box/Stair/Into Pit/Hill → Broad → Hurdle → Weighted → Depth
  10-50 contacts
  Various combination methods
- **Medicine Ball Throws**:
  2-5 throw variations
  3-20 throws per exercise
- **Weights**:
  Lower-Body
  >80%, Submaximal or Maximal Effort
  Prilepin’s Chart for Volumes
  Squat
  Posterior Chain
  Prehab/Auxiliary Work

**Tuesday: CNS Low**
- **Warm-Up B**
- **Extensive Tempo**:
  <75% Max V.
  50-100m
  1000-2000m total volume
- **Abdominals**:
  300-1000 total reps, circuit
  Stuart McGill or Charlie Francis Style
- **Extensive Med Ball**:
  -300-1000 total reps, circuit
- **Weights**:
  Upper Body
  >80%, Submaximal or Maximal Effort
  Prilepin’s Chart for Volumes
  Press
  Row
Prehab/Auxiliary Work

**Wednesday: Off**

**Thursday: CNS High**
- *Warm-Up A*
- *Sprints:*
  Resisted (0-40m) → Acceleration (0-30m) → Maximal Velocity (40-60m) → Flying (5-20m run-up)
  100-300m total volume (less volume than Monday)
- *Jumps:*
  Rudimentary → Box/Stair/Into Pit/Hill → Broad → Hurdle → Weighted → Depth
  10-50 contacts (less volume than Monday)
  Various combination methods
- *Medicine Ball Throws:*
  2-5 throw variations
  3-20 throws per exercise (less volume than Monday)
- *Weights:*
  Lower-Body
  60-80%, Submaximal or Repetition Effort
  Prilepin’s Chart for Volumes (more volume than Monday)
  Squat
  Posterior Chain
  Prehab/Auxiliary Work

**Friday: CNS Low**
- *Warm-Up B*
- *Extensive Tempo:*
  <75% Max V.
  50-100m
  1000-2000m total volume
- *Abdominals:*
  300-1000 total reps, circuit
  Stuart McGill or Charlie Francis Style
- *Extensive Med Ball:*
  -300-1000 total reps, circuit
- *Weights:*
  Upper Body
  60-80%, Submaximal or Repetition Effort
  Prilepin’s Chart for Volumes (more volume than Tuesday)
  Press
  Row
  Prehab/Auxiliary Work
Saturday: Off

Practical Examples:

Module 5: Warm-Ups - demonstrate common exercises used in both the warm-up before the high and low intensity workouts, explain the theory and practical reasoning behind having two typologies for the warm-up, and explain the need for novelty during the warm-up.

Warm-Up A
-Heart Rate/Circulation Increase
-Joint Circle
   Standing Neck Rotation/5
   Standing Neck Lat. Rotation/5
   Standing Neck Flex/Ext/5
   Standing Neck Lat. Flexion/5
   Standing Shoulder Rolls/5
   Standing No Money/5
   Standing Knee Kick/5
   Standing Knee Circle/5
   Standing 4-Way Hip/5
   Standing Elbow Pull-Ins/5
   Standing Rotations/5
-Calisthenics
-Dynamic Stretches
   Walking Heel to Butt w/ OH Reach/10yd + 10yd Walk
   Walking Knee to Chest/10yd + 10yd Walk
   Walking Lunge/10yd + 10yd Walk
   Walking Reverse Lunge w/ Hip Flexion/10yd + 10yd Walk
   Walk Backward/10yd
   Walking Side Lunge/ Cross-Over Step/10yd each
   Walking Piriformis Stretch/10yd
-Power-Speed Drills & Technical Build-Ups
   A & B Skip
   Calf pops

Warm-Up B
-Heart Rate/Circulation Increase
-Joint Mobility
   Thoracic exercises
   Extension/rotation
   kneeling downward dog
Module 6: High Intensity Field Work - explain that the exercises progress from the lowest intensity (and by nature smallest impact on the CNS) to the highest intensity (largest impact on CNS) over the course of the weeks, blocks and years with an athlete, demonstrate proper exercise form and technique, and give troubleshooting examples for adjusting from one similar mean to another, given limited equipment or space.

Sprints
- Sled/Prowler
- Medicine Ball
  - 5x5+5
  - Diving/Falling
- Acceleration Starts
  - 3-point stance set-up

Jumps
- Box
- Broad
- Hurdle
- Weighted

Throws
- OHB
- Scoop
- Diving
- Rotational

Module 7: Low Intensity Field Work - explain why these exercises are considered low intensity (ergo <75% of maximal velocity with tempo, low volitional effort, circuit/continuous methods, short rest, reducing output levels, etc.), execute proper technique in the various exercises, and demonstrate why both theoretically and practically the exercises are used.

Tempo
- General
Abdominals
- McGill Series
- Charlie Francis abs

Extensive Med-Ball
- OH
- Chest
- High Lateral
- Low Lateral
- Scoop
- Squat
- Chop
- Split OH
- Split Chest

Module 8: Weights - demonstrate exercise technique in novel exercises adapted to reduce stress specific to football players, explain why pure powerlifting, Olympic lifting and bodybuilding methods are not used but why some of the methods are adapted and used to meet the needs and requirements of football players.

- Lower-Body Primary: Hip/Knee Extension, Hip Extension
  - Belt Squat
  - Yoke Bar Squat
  - Trap-bar deadlift
- Lower-Body Auxiliary: Hip/Knee Extension, Knee Flexion/Extension
  - Step-up
  - Glute bridge/hip thrust
- Upper-Body Primary: Press, Row
  - Floor press (why no shoulder press)
  - Meadows row
- Upper-Body Auxiliary: Press, Row, Shrug, Shoulder, Tricep, Bicep
  - DD Pull-Downs
  - Special QB Push-Ups/DB Press
  - Trap-bar shrug
  - Scapular plane lateral raise
  - Band pushdowns
  - Explosive knee drive
  - Qb exercises: med-ball pullover throw, db pullover, snap throw

Module 9: Conditioning - briefly explain and demonstrate the bioenergetic conditioning methods, why they are important biochemically/physiologically/morphologically, and demonstrate basic special
exercises to be used in GPP to serve as a bridge to competition seasons and also develop the specific needs of the athletes.

-Alactic Capacity
  - Prowler pushes
  - Med-ball sprints
-Aerobic Capacity
  - Tempo + push-ups/abs
  - Special tempo exercises
  - backpedal
  - shuffle
  - weave
  - extensive drop (qb and pass block)
-Special Exercises
  - tackle MB Throw

**Module 10: Prehab & Rehab** - demonstrate exercises that help prevent or rehabilitate injuries most commonly incurred while playing football.

-Lower Body: Ankle series, Hip Abduction/Adduction/Flexion/Rotation/Extension w/ bands
-Upper Body:
  - 6-way Neck
  - Rotator Cuff w/ band
  - 0, 45, 90 degrees abducted external/internal rotation
  - Band pull-apart series