Achievable

CSCS DUMP SHEET

Core principles and concepts

Program design

- **SAID principle:** Specific Adaptation to Imposed Demands
- **Progressive overload:** ↑ weight, volume, complexity
- Periodization types:
  - **Linear:** ↑ intensity, ↓ volume over time
  - **Undulating:** changes week to week or session to session
- Rest periods:
  - **Strength:** 2—5 min
  - **Power:** 2—5 min
  - **Hypertrophy:** 30—90 sec
  - **Endurance:** ≤30 sec

Plyometrics

- **Stretch-shortening cycle (SSC):** eccentric → amortization → concentric
- **Safety:** depth jumps from 12—42 in boxes; the landing surface should absorb shock
- **Volume** (foot contacts per session): 80—100 beginner, 100—120 intermediate, 120—140 advanced

Macronutrients

- **Protein:** 1.4—2.0 g/kg/day (higher for strength)
- **Carbs:** 5—10 g/kg/day (higher for endurance)
- **Fat:** ~20—35% of total calories

Older adults

- Focus on technique and progressive overload
- 1—3 sets of 8—12 reps, 2—3×/week

Hydration

- Replace 16—24 oz of fluid for every 1 lb lost
- **Pre-exercise:** 16 oz, 2—3 hrs before
- **During:** lose no more than 2% of body weight
- Electrolyte replacement is essential for long-duration activity

Supplements

- **Creatine:** ↑ ATP-PC system; load 20—25 g/day for 5—7 days, then 2—5 g/day
- **Caffeine:** 3—6 mg/kg; ↑ alertness & endurance
- **Beta-alanine:** ↓ fatigue, ↑ buffering

Youth

- Emphasize technique over load
- Growth cartilage is vulnerable, especially at peak height velocity: progress loads gradually, with qualified coaching
- 1—3 sets of 6—15 reps, 2—3×/week

Female athletes

- **ACL injury prevention:** landing mechanics, quad:ham ratio
- Lower absolute strength (about two-thirds of men's) is mostly due to less muscle mass

Risk management

- **Emergency action plan (EAP):** required
- **Spotters:** overhead, bar-on-back, front-of-shoulder, and over-the-face lifts
- **Facility design:** stretching area ≥49 ft² per athlete; mirrors 20 in off the floor and 6 in from equipment