

**Science-Based Workout Templates for Training Split Types**

This report compiles evidence-based workout structures from reputable strength training literature, focusing on Full Body, Upper/Lower, and Push/Pull/Legs splits. These templates are derived from scientific sources such as NSCA, ACSM, and other research-based fitness authorities to provide accurate foundations for your AI personal trainer project.

**Full Body (FB) Workout Templates**

**Full Body Circuit Training - ACSM Guidelines**

**Exercise List:**

1. Squat Press: 1 set of 15-20 repetitions (60 seconds)
2. Leg Curl: 1 set of 15-20 repetitions (60 seconds)
3. Leg Extension: 1 set of 15-20 repetitions (60 seconds)
4. Chest Press: 1 set of 15-20 repetitions (60 seconds)
5. Seated Row: 1 set of 15-20 repetitions (60 seconds)
6. Shoulder Press: 1 set of 15-20 repetitions (60 seconds)
7. Pulldown: 1 set of 15-20 repetitions (60 seconds)
8. Triceps Press: 1 set of 15-20 repetitions (60 seconds)
9. Biceps Curl: 1 set of 15-20 repetitions (60 seconds)
10. Abdominal Crunch: 1 set of 15-20 repetitions (60 seconds)

**Notes:**

* Perform 60 seconds of stationary cycling between each resistance exercise
* Use 40-60% of maximum weight load
* Research shows this program led to an average 3.1-lb increase in lean weight over 10 weeks
* 2-3 sessions per week were equally effective for increasing lean muscle
* Rest periods are built into the cycling intervals between exercises

**Source:** American College of Sports Medicine (ACSM) strength training guidelines, as detailed in ACSM's Health & Fitness Journal[[1]](#fn1)

**Three-Day Full-Body Strength/Hypertrophy Program**

The Institute of Personal Trainers references a three-day full-body split that targets all major muscle groups three times weekly. This approach is particularly beneficial for beginners, busy individuals, and those seeking balanced fitness development[[2]](#fn2).

**Training Principles:**

* According to NSCA guidelines, full-body training should follow these load parameters:
  + Muscular endurance focus: ≤67% of 1RM, ≥12 reps
  + Hypertrophy focus: 67-85% of 1RM, 6-12 reps
  + Strength focus: ≥85% of 1RM, ≤6 reps[[3]](#fn3)

**Programming Considerations:**

* Training frequency for beginners: 2-3 times/week with 1-3 days between workouts
* Exercise order: Begin with power exercises (e.g., cleans), followed by core exercises (e.g., squats, bench press), then assistance exercises
* Rest periods should be adjusted based on training goals[[3]](#fn3)

**Upper/Lower (UL) Split Templates**

**10-Week Upper/Lower Workout Program**

This intermediate-level program is structured as a 4-day weekly split with separate upper and lower body training days.

**Training Parameters:**

* Duration: 10 weeks
* Frequency: 4 days per week (2 upper body, 2 lower body)
* Session length: 60-90 minutes
* Equipment: Barbell, bodyweight, cables, dumbbells
* Rest periods: 2-3 minutes for strength-based exercises, 30-45 seconds for accessory work
* Special note: All training days incorporate glute training variations[[4]](#fn4)

While the specific exercise breakdown isn't provided in the search results, the program adheres to established principles of upper/lower body training splits designed for balanced muscular development while allowing adequate recovery between sessions targeting the same muscle groups.

**Push/Pull/Legs (PPL) Split Templates**

**Push/Pull/Legs Split Fundamentals**

The PPL split organizes exercises by functional movement patterns, grouping muscles based on their biomechanical actions during resistance training[[5]](#fn5).

**Push Day:**

* Primary muscle focus: Chest, shoulders, triceps
* Movement pattern: Pushing resistance away from the body
* Example exercise: Barbell bench press (activating chest muscles and triceps)[[5]](#fn5)

**Pull Day:**

* Primary muscle focus: Back, biceps
* Movement pattern: Pulling resistance toward the body
* Example activities: Door-closing motions that engage biceps and latissimus dorsi[[5]](#fn5)

**Legs Day:**

* Primary muscle focus: Quadriceps, hamstrings, calves, glutes
* Combines both pushing movements (e.g., squats) and pulling movements (e.g., deadlifts)[[5]](#fn5)[[2]](#fn2)

According to training principles from the NSCA, exercise order within each day should prioritize power movements first, followed by core exercises, and ending with assistance exercises[[3]](#fn3).

**Training Principles for Program Design**

The National Strength and Conditioning Association (NSCA) outlines key principles for designing effective resistance training programs:

1. **Specificity (S.A.I.D. Principle)**: Specific Adaptations to Imposed Demands - training must be specific to desired outcomes[[3]](#fn3)
2. **Program Design Process**:
   * Needs analysis (evaluating job/activity demands and assessing the individual)
   * Exercise selection
   * Training frequency determination
   * Exercise ordering
   * Load and repetition assignment
   * Volume determination
   * Rest period planning
   * Appropriate sequencing[[3]](#fn3)
3. **Load Assignment by Goal**:
   * Muscular endurance: ≤67% of 1RM, ≥12 reps
   * Hypertrophy: 67-85% of 1RM, 6-12 reps
   * Strength: ≥85% of 1RM, ≤6 reps[[3]](#fn3)

**Conclusion**

These science-based templates from reputable sources provide a foundation for developing your AI personal trainer system. The ACSM circuit training program offers a complete full-body workout template with specific exercises, sets, and repetitions. For the Upper/Lower and Push/Pull/Legs splits, the search results provide structural frameworks and principles rather than complete exercise-by-exercise breakdowns.

For your graduation project, these templates can serve as a modular starting point. To build a comprehensive library, you might need to consult additional academic resources from NSCA, ACSM, and peer-reviewed journals to gather more detailed exercise prescriptions for each training split type.

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1. <https://journals.lww.com/acsm-healthfitness/fulltext/2009/07000/acsm_strength_training_guidelines__role_in_body.7.aspx>

1. <https://www.instituteofpersonaltrainers.com/blog/exercise-programming-templates>

1. <https://www.nsca.com/contentassets/53f36e5db26a4729b251fb794c166af1/tsac-module-4.0--4.5.pdf>

1. <https://www.muscleandstrength.com/workouts/10-week-upper-lower-workout-for-women>

1. <https://www.transparentlabs.com/blogs/all/push-pull-legs-routine-guide-to-ppl>