

Quiz Policies

Eligibility

The NCSF online quizzes are open to any currently certified fitness professional, 18 years or older.

Deadlines

Course completion deadlines correspond with the NCSF Certified Professionals certification expiration date. Students can obtain their expiration dates by reviewing either their certification diploma or certification ID card.

Cancellation/Refund

All NCSF continued education course studies are non-refundable.

General Quiz Rules

- You may not have your quiz back after sending it in.
- Individuals can only take a specific quiz once for continued education units.
- Impersonation of another candidate will result in disqualification from the program without refund.

Disqualification

If disqualified for any of the above-mentioned reasons you may appeal the decision in writing within two weeks of the disqualification date.

Reporting Policy

You will receive your scores within 4 weeks following the quiz. If you do not receive the results after 4 weeks please contact the NCSF Certifying Agency.

Re-testing Procedure

Students who do not successfully pass an online quiz have the option of re-taking. The fees associated with this procedure total \$15 (U.S) per request. There are no limits as to the number of times a student may re-test.

Special Needs

If special needs are required to take the quiz please contact the NCSF so that appropriate measures can be taken for your consideration.

Quiz Rules

What Do I Mail Back to the NCSF?

Students are required to submit the quiz answer form.

What do I Need to Score on the Quiz?

In order to gain the .5 NCSF continued education units students need to score 80% (8 out of 10) or greater on the CEU quiz.

Where Do I Mail My Quiz Answer Form?

You will mail your completed answer form to:

NCSF

Attn: Dept. of Continuing Education

5915 Ponce de Leon Blvd., Suite 60

Coral Gables, FL 33146

How Many CEUs Will I Gain?

Professionals who successfully complete the any continuing education quiz will gain .5 NCSF CEUs per quiz.

How Much does each quiz cost?

Each quiz costs the student \$15.00.

What Will I Receive When The Course Is Completed?

Students who successfully pass any of the NCSF online quizzes will receive their exam scores, and a confirmation letter.

How Many Times Can I Take The Quizzes For CEUs?

Individuals can take each NCSF quiz once for continuing education credits.

The Best Kept Secret to Maximizing Training

Exercise principles define adaptation response. Most Americans who work out lack an understanding of basic human physiology, causing them to forego specifically applied progressive overload. Selye's general adaptation theory states that when the body is strained it will adapt to and overcome the stress. However, after adaptation has occurred, a new level of stress is required. The same absolute stress will not be perceived as "a new stress" by the body. If the stress is reduced, the body will in turn reduce the response and the principle of reversibility is invoked, explaining the adaptational diminution. This being said, physiological adaptations are simply a response to stress that is applied at a frequency significant enough to require the body to change in order to better manage it. Inherently the body does not like to change, and in fact, is resistant to chronic adjustments. For instance, muscle hypertrophy training can be applied for 4-6 weeks before the body will increase contractile protein content, and the body will continue to resist significant change for 18-24 months before a shift to higher protein synthesis, associated with higher anabolic hormone concentrations, occurs. This is a natural defense mechanism to heightened metabolism. Tens of thousands of years ago a human with more muscle would need more calories, and in the type of environment experienced at that time, a high metabolism was a curse rather than a blessing. Likewise we have defensive mechanisms for weight loss. Consider the same human 30,000 years ago; a high metabolic rate equates to a need for more food, and a low body fat meant risk for starvation and hypothermia when exposed to the elements. Most resistance to physiological adaptations stem from defense mechanisms for survival. These mechanisms also explain our actual impressive initial resistance to obesity and

paradoxical ability to add fat and mature lipid cells.

Due to these benefits or consequences, depending on how they are viewed, training for improved strength, size, and leanness must comply with specifically applied stress (specificity), at a new perceived level of strain (overload), with consistent incremental increases (progression). Most fitness enthusiasts are able to apply these principles when they first start training either out of instruction, copying others, or the simple fact that at this point any stress is a new perceived stress, but mostly due to the fact that the body is not accustomed to training and a routinely added stress of any kind will work. Anyone who does not work out can get results by entering a gym, copying the actions, correct or incorrect, of others if they do it routinely and the intensity is above what they have experienced before. The body, though, will initially make neural adjustments, alleviate some stress via muscle and coronary adjustments, and then level off. That is, unless a new stress is applied. Many refer to this as plateauing or going stale. This does not mean one has reached a genetic potential; rather it suggests the body is not impressed with the training and can deal with it in its current physiological state. Research indicates when left to one's own accord, training will consistently be below threshold (60% of max). Studies have demonstrated this for both aerobic and anaerobic training. This explains why some of the common faces in the gym are also those without results. Everyone knows individuals who are in the gym day after day, year after year and look and perform exactly the same. How is this possible with that amount of time? It's simple physiology, the body changes to a new stress not the same one it has already adapted to. If you read

the same book over and over again the ending is always the same.

Although there is much to learn, science has advanced enough to outline necessary steps to achieve improvements in human performance; and has also been kind enough to identify bogus claims including amazing short-term gains in muscle mass without steroids, and the fat loss of ten pounds in a weekend, or six inch spot reduction of the waist from the latest ab-based infomercial product. A novel emerging principle can be used to consistently get results. It's called the applied exercise principles principle. Simply stated, following immediate adjustments from the nervous system, the body can adjust about 2-5% a week depending on the nature of the adaptation and the relative proximity to one's genetic potential. Therefore to make gains, the stress needs to be 2-5% harder than what was previously adapted to. This doesn't mean an increase in resistance weight by 5% every week, notice the words previously adapted to – not previously performed. Case in point, you may increase temporary flexibility after a properly performed yoga session but the elastic properties of the tissue have not become plastic properties. Likewise, you may improve performance of a new exercise via neural adjustments but that does not mean the next time it is performed it will be perfect based on true motor patterning. These adaptations take several exposures to the stress which is why the 2-5% improvement is over a week, not a day.

Training should reflect and address these needs of the body and an easily applied rule can help. Coined here, it is the “plus-two” rule. “Plus two” simply suggests premeditated increases of stress. Either add two reps, 2% more resistance, or increase the total weekly volume 2%. For example, if the resistance for the standing shoulder press was 30 lbs, and it was successfully performed for two sets of twelve, next workout

make it two sets of 14 repetitions. By increasing the repetitions by two rather than one it eliminates the psychology of repetitions – where one stops at the reps defined, regardless of capability. When a trainer puts a resistance on a bar and says perform 10 repetitions, the client will always stop at 10 regardless of his or her immediate capabilities. Some days we are stronger than others. If volitional failure stops the exercise, overload has obviously been reached.

This can also be applied to resistance. If 200 lbs was used on the leg press last week, this week's resistance ($200 \times 2\% = 204$ lbs) is 205 pounds. Since there are typically no 1 lb Olympic plates, we'll round up. Now consider this, when was the last time anyone actually used the 2.5 lb Olympic plates on the leg press? Or anything else? The least used plates in the gym are actually the most physiologically correct resistance for weight training applications (bodybuilding, strength training, and power training). Even drag training used for speed should reflect this seemingly small incremental change. If the body can only adapt at a certain, consistent speed and nothing besides illegal and dangerous drugs can accelerate this process, why is everyone ignoring it? If you observe people bench press, squat, leg press, military press, and row you will see incremental increases of ten if not twenty pounds or more in some cases. Certainly, some individuals use the smaller weights but often their justification is to avoid mass, not utilize overload. Is it ego or ignorance? Perhaps even a combination.

Volume can also be adjusted by 2% per week if the goal is total work. Volume is the total work performed in the week. It can be determined by multiplying the number of sets by the reps, and then by the weight lifted.

Example:	Weight	Reps	Sets	Total
Deadlift	125	8	4	4000
Military press	75	8	3	1800
Bent-over row	80	10	3	2400
Alt Lunge with ball rotation	Bodyweight + 6lb	16	2	4992
Alternating incline press	Total 80 lbs (DB 40 lbs)12		2	1920
Medicine ball rotation	8 lb	15	2	240

Total work = 15,352 lbs lifted

*Note: DB = dumbbell

If this value is used consistently for three sessions in a week, the next week a total work of $(15,352 \times 2\%)$ 310 lbs must be added per day. The 310 lbs. should be distributed over the exercises to accommodate total work performed by all exercises. This way, non-specific exercises can be used to generate progressive work. It all is a factor of what the intentions of the training are or again, the principle of specificity.

If trainers want to see continuous goal attainment from their clients, beyond that reached in the first two months (which occur regardless of skill), they must premeditate programming based on training cycles of appropriate applied principles. The term Exercise Science in university settings is such due to the science of physiology. Human adaptations are extremely predictable. This knowledge is a huge advantage for personal trainers who are willing to exploit this fact. Tracking progress, collecting data, and applying principles all equate to very successful training practices.

The Best Kept Secret to Maximizing Training

CEU Quiz

- Which of the following is not one of the 3 basic exercise principles?
 - Specificity
 - Continual application
 - Progression
 - Overload
 - The General Adaptation theory was developed by _____.
 - Hans Gruber
 - Hans Selye
 - Hans Christian Anderson
 - Charles Darwin
 - For what reason do evolutionary biologists believe human beings are prone to store fat and decrease lean mass easily?
 - This adaptation would reduce metabolic rate and aid in the prevention of starvation.
 - Humans are adapted to the opposite; namely, reducing fat and increasing lean mass.
 - This would allow humans to perform better physically and outcompete other predators.
 - The evolutionary adaptations of our ancestors 30,000 years ago played no role in our current physiology.
 - Most fitness enthusiasts tend to unknowingly apply the three principles of exercise when they initiate a training program.
 - True
 - False
 - What is a plateau, in terms of physical training?
 - Achieving one's maximal genetic potential.
 - Boredom with training.
 - An adaptational period that one must work through, without changing training modalities, to eventually make improvements.
 - A lack of adaptational responses due to the lack of a perceived stress by the body.
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6. Research indicates that when left to one's own accord, training for fitness will be below threshold set at about _____%.
- 25
 - 50
 - 60
 - 90
7. The article suggests that increments of _____ are best to continually apply the principle of progression.
- 1-3%
 - 2-5%
 - 5-7%
 - 10% every week
8. What is the best way to measure training volumes, for resistance training programs?
- Wear a heart rate monitor and estimate caloric usage.
 - Utilize rate of perceived exertion at the end of the workouts.
 - Multiply the number of reps by the weight lifted and then by the number of sets.
 - All of the above.
9. How can one ensure that the principle of overload is employed?
- Achieve volitional failure.
 - Only work to a predetermined number of repetitions.
 - Supersede the predetermined number of repetitions.
 - Learn to read the client's facial expressions.
10. What is the "plus-two" rule?
- Add two sets to each exercise.
 - Replace two exercises with two new ones.
 - Add 2 reps, 2% resistance, and total weekly volume by 2%.
 - Add 2 reps, 2% resistance, or total weekly volume by 2%.
-

Quiz Answer Form

FIRST NAME _____ LAST NAME _____ M.I. _____

TITLE _____

ADDRESS _____ APT. _____

ADDRESS _____

CITY _____ STATE _____ ZIP _____

COUNTRY _____ POSTAL CODE _____

CERTIFICATION NO. _____ CERTIFICATION EXP. ____/____/____

MEMBERSHIP NO. _____ MEMBERSHIP EXP. ____/____/____

Quiz Name	Member Price	Total
	\$15	



Discover



Visa



Mastercard



Amex



Check/Money Order

Account No. _____

Exp. Date _____

Security Code _____

Signature _____

Date _____

Quiz Answers

- | | |
|----------|-----------|
| 1. _____ | 6. _____ |
| 2. _____ | 7. _____ |
| 3. _____ | 8. _____ |
| 4. _____ | 9. _____ |
| 5. _____ | 10. _____ |

Fill in each blank with the correct choice on the answer sheet. To receive 0.5 CEUs, you must answer 8 of the 10 questions correctly.

Please mail this Quiz answer form along with the proper enclosed payment to:

NCSF
5915 Ponce de Leon Blvd., Suite 60
Coral Gables, FL 33146

Questions? 800-772-NCSF