



THE BASIC BIOLOGY OF MUSCULAR CONTRACTION # SCI.100.1.50
INSTRUCTOR: DAN CARTER, SUPER SLOW MASTER

Name of Course:	The Basic Biology of Muscular Contraction	
Course Number:	SCI.100.1.50: Session 10	
Instructor(s):	Dan Carter, SuperSlow Master	
Hours/CEU Credit :	.5 CEU	
Course Start Date:	Wed., September 2, 2009	
Course End Date:	Wed., September 30, 2009	
Class Size Requirements:	Min: 8	Max: 15
Course Registration Cut Off Date:	(If a minimum of 8 students have not registered by 5:30 pm ET, Mon., August 24, 2009 the course will be cancelled.)	
“Wow – I could not have done this well.” <i>... Doug McGuff, M.D.</i>	Here’s what Dr. Doug McGuff had to say about Dan’s chapter contribution to the third edition of the SuperSlow Technical Manual, the basis for this course.	

Specific Course Dates – Please Mark Your Calendar				
All Students				
Class Begin and End Times - (Select Your Time Zone Below)				
2:00 pm to 3:00 pm Atlantic		11:00 am to 12:00 am Mountain		
1:00 pm to 2:00 pm Eastern		10:00 am to 11:00 am Pacific (* & Arizona)		
12:00 am to 1:00 pm Central		*Effective During Daylight Saving Time 03/08/09 to 11/01/09		
Who	Month	Day of The Week	Class Dates	
All Students	Sept.	Wed.	9-2-09	Class # 1
All Students	Sept.	Wed.	9-9-09	Class # 2
All Students	Sept.	Wed.	9-16-09	Class # 3
All Students	Sept.	Wed.	9-23-09	Class # 4
All Students	Sept.	Wed.	9-30-09	Class # 5

A. Course Description A SuperSlow Instructor’s Guide to the Mechanics of Muscular Contraction, Recovery and Optimal Results

B. Course Purpose: Why can we say SuperSlow is more aerobic than activity commonly called aerobic? What exactly is muscular failure and the *stimulus* it produces? What occurs as a result of this stimulus, and why does it require increasingly more time? What specifically are the precious recovery resources we all talk about? Why are the results of proper strength training much longer lasting than those of other so called exercise protocols? And how to use the answers to these questions to tailor the SuperSlow session for optimal results.

- C. Learning Objectives**
1. Learn the biology of muscular contraction.
 2. Learn how muscular contraction is fueled.
 3. Learn about muscle micro trauma, as well as, where and when it occurs.
 4. Learn the process of recovering from muscular micro trauma.
 5. Learn how SuperSlow exercise protocol provides all the biological requirements for immediate, continuous, and worthwhile results.



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D. Expected Outcomes

1. Learners should be able to Diagram the biology of muscular contraction.
2. Learners should be able to Describe how muscular contraction is fueled.
3. Learners should be able to Discuss muscle micro trauma, as well as, where and when it occurs.
4. Learners should be able to Integrate into their conversational knowledge, the process of recovering from muscular micro trauma.
5. Learners should be able to Identify key points of how SuperSlow exercise protocol provides all the biological requirements for immediate, continuous, and worthwhile results.

E. Topics

1. Glucose, glycogen, carbohydrates, aerobic respiration, and ATP.
2. Fiber types, motor units, and muscular contraction.
3. Muscular micro trauma, the inflammatory response and indirect affect.
4. Why the SuperSlow exercise protocol produces results fast.
5. Why other protocols do not.

Class #1: Muscle Fibers: The biology of muscular contraction.

- Key Learning Points:**
1. Muscle Fibers
 2. Motor Units
 3. Neurological Efficiency

Class #2: Muscle Fiber Type Specifics

- Key Learning Points:**
1. Muscle Fiber Type: classification and characteristics
 2. Substances that fuel contraction
 3. Impact of fiber type on metabolic conditioning

Class #3: Aerobic Respiration

- Key Learning Points:**
1. Where production fuel for muscular contraction begins.
 2. Muscle fiber type and ATP production demand.
 3. Aerobic Respiration vs. ATP Production:
 - a. Greater production of ATP
 - b. Trainable

Class #4: Putting it all Together: How the systems responsible for muscular contraction work together.

- Key Learning Points:**
1. Muscle fiber recruitment.
 2. Exercise to failure.
 3. One cycle of aerobic respiration.
 4. Micro trauma discussion: from cause to effect.

Class #5: Recovery: Processes and Resources

- Key Learning Points:**
1. Biologic processes post exercise.
 2. Inflammatory response.
 3. Regulation of muscle stimulation and growth.
 4. Cycle of recovery.



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F. Class Structure

- 4 one-hour Tele-classes: 50% of Class Leader Presentation - 50% of Student Participation
- 1 one-hour Tele-classes: 20% of Class Leader Presentation - 80% of Student Participation

Prior to attending class read and be familiar with:

1. SuperSlow The Ultimate Exercise Protocol, by Ken Hutchins
2. Ultimate Exercise Bulletin Number 1, M. Doug McGuff, MD

G. COURSE TELE-CLASS HOURS

Total Hours <u>Tele-classes</u> (Distance Learning): .5 CEU	Approx. Reading/Preparation Hours: 3 hours	Total Class Hours: 5	Total Evaluation Time: 15 min.
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Software Application Requirements: Everything Below Applies – You Must Have The Following

- I HAVE Word For Windows
- I HAVE Acrobat Reader for My PDF
- I **DO NOT** have Acrobat Reader for My PDF so I will purchase a hard copy of the course material.

Hardware Requirements: Computer High Speed Data (DSL, Broadband, Satellite, etc.) Telephone

Tele-Course Conference Call Phone Number: Call: TBA

PIN #: TBA

Important Note:
Preparation before Class 1
required for successful
class participation

Prior to Class:
Preparation Before Class:
Pre-Class Assignment
(Emailed to you after registration)

Assignment(s) before Class One:
Fax (24/7, no cover sheet required)
Fax Number: (866) 687-7585

- Fax Completed Pre-assignment to registrar
by 5:00 pm EDT on Mon., 8/31/09.

H. COURSE FEE AND MATERIALS

COURSE FEE

- Course Fee: \$170 per student (Includes Courseware to be sent to you by email (in a pdf attachment))**

Required Course Materials:

Required Text for Class (See registration form if you need to add these texts)

1. **Ultimate Exercise Bulletin Number 1, M. Doug McGuff, MD** – See Enrollment Form below to order this with your course materials. (If you already have a copy you are not required to purchase.)
2. **SuperSlow Technical Manual - 3rd Edition** See Enrollment Form below to order this with your course materials. (If you already have a copy you are not required to purchase.)

If you need to purchase Ultimate Exercise Bulletin Number 1, M. Doug McGuff, MD:

- \$22.00 USD (Includes US postage and handling)
- \$40.00 USD (Includes International postage and handling)

If you need to purchase SuperSlow Technical Manual, 3rd Edition:

- \$65.00 USD (Includes US postage and handling)
- International \$65.00 USD (Does not include shipping cost – please check with the Registrar at registration to determine cost of shipping.)

Cost for Audio CD Class Makeup: See Policies and Procedures

- USA \$25 USD (includes shipping) International \$33 USD (includes shipping)

Audit Course Fee: No Credit (by permission) \$170



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I. CEU Course Policies and Procedures	
1. What if I need to cancel taking this course?	If you are unable to take a CEU Course that you have registered and paid for, then you must cancel 2 weeks (14 calendar days) before the first class or forfeit the entire class fee.
2. How to cancel taking this course – What to do:	<ol style="list-style-type: none"> Contact: registrar@supeslowzone.com The following information must be included: Your Name, Your Telephone Number, Your e-mail Address, Date Course Begins, Name of Course, Course Instructor.
3. Confirmation of your Course Cancellation	<p>You will receive a confirmation by email or regular mail that your cancellation has been received, and you will be asked to acknowledge that you have received this notice.</p> <ul style="list-style-type: none"> If sent by email, we will use the email address that we have on file for you when you registered unless otherwise indicated.
4. Administrative Fee (for your course registration, un-registration, class logistics, coordination with instructor, etc):	There is a non-refundable \$35 administrative fee for each course that is cancelled regardless of when the cancellation is made.
5. Rescheduling Fee (rescheduling from one to another, logistics, coordination with instructor, etc.)	If you reschedule a substitute course <u>at the time you cancel your course</u> , you will pay only the rescheduling fee (\$25) and not incur the Administrative Fee above.
6. Refund Policy: This course is refundable – See Refund Terms	Refund Terms: If a refunded course fee is applicable, you will receive your refund within 30 calendar days of your cancellation notice. Not all courses are refundable.

J. CEU Course Evaluation REQUIRED

In compliance with IACET guidelines, prior to issuing your Continuing Education Units (CEUs), the SuperSlow Zone Institute (SSZI) is required to receive your completed assessment of the course you registered for and participated in. Your evaluation will be placed in your student file and a copy will be sent to Dr. Scott Preissler, Compliance Officer. Additionally your assessment will be used to give each instructor feedback on how registrants perceive him/her in teaching excellence. The confidential results of all evaluations will be tabulated and made available to faculty, through Continuing Education and Compliance (CECI) division of SSZI to help monitor the quality and outcomes of this instructional experience.



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ENROLLMENT FORM: Print Page 5 Only for Enrollment Purposes

Fax To: (866) 687-7585 (24/7 – No Cover Sheet Required)

If you prefer to e-mail your enrollment print, complete and scan it or create a PDF and e-mail to: registrar@superslowzone.com

A. Your Name: Please print legibly	
B. Today's Date	
C. Phone Number (Best Number to Reach You)	
D. Your Email Address	
E. Name of Course	The Basic Biology of Muscular Contraction (Chapter 41 –SuperSlow Technical Manual-3rd Edition)
F. Course Number	SCI.100.1.50: Session 10
G. Instructor(s)	Dan Carter, SuperSlow Master
H. CEU Credits	.5
I. Course Start and End Date	Start: Wed, Sept. 2, 2009 End: Wed, Sept. 30, 2009 Enroll by: Monday, August 24, 2009
J. COURSE FEE & MATERIALS	
1. Course Fee	Registration \$170 USD
2. Required Courseware	Registration Fee Includes Courseware – To be sent to you by email (pdf attachment)
3. Required Texts:	
a. If you need to purchase Ultimate Exercise Bulletin Number 1, M. Doug McGuff, MD:	<input type="checkbox"/> \$22.00 USD (Includes US postage and handling) <input type="checkbox"/> \$40.00 USD (Includes International postage and handling)
b. If you need to purchase SuperSlow Technical Manual, 3 rd Edition:	<input type="checkbox"/> \$65.00 USD (Includes US postage and handling) <input type="checkbox"/> International \$65.00 USD (For international orders, please contact registrar@sszi.com for shipping cost (calculated depending on destination))
Enter Total Cost For Course + Texts (if needed)	\$
4. If You Pay By Check - Check Here <input type="checkbox"/> <i>Please Note This Process Takes Longer Thus Delaying Enrollment Confirmation</i>	Make your check PAYABLE to: SuperSlow Zone, LLC Please mail your check to: SuperSlow Zone, LLC, Attn: Cont. Educ. 1326 Palmetto Avenue, Winter Park, FL 32789
5. If You Pay By Credit Card (AmX, Discover, Visa, MasterCard)	List your credit card number below: Expiration Date:
6. Name as it appears on credit card	
7. Billing Address (where your credit card statement is sent) <i>Please print legibly</i>	Street:
	City: State: Zip:
8. If Courseware is to be mailed to an address other than the one provided above, please indicate:	Street:
	City: State: Zip:
13. Your Signature – Required <i>My signature also acknowledges that I will be prepared for the course by completing my course pre-assignments and evaluation as indicated. Failure to do so will result in forfeiture of class with no refund.</i>	<input type="checkbox"/> Yes! Enroll me: _____ Your Signature Required Above