



MENNO HENSELMANS

— Science to master your physique —



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# COURSE GUIDE

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[www.MennoHenselmans.com](http://www.MennoHenselmans.com)

Hi there, it's Menno, your course instructor. Let's get you introduced.

## Overview

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## How the course works

Every week I will post one or several modules of the course in the course Facebook group. In the Comments below this post we will discuss that module during the week. All bonus features, such as the live video Q&As, the meet-up and the exam will be announced and discussed in a post as well, so to follow the course, all you have to do is follow the Facebook group.

## The community

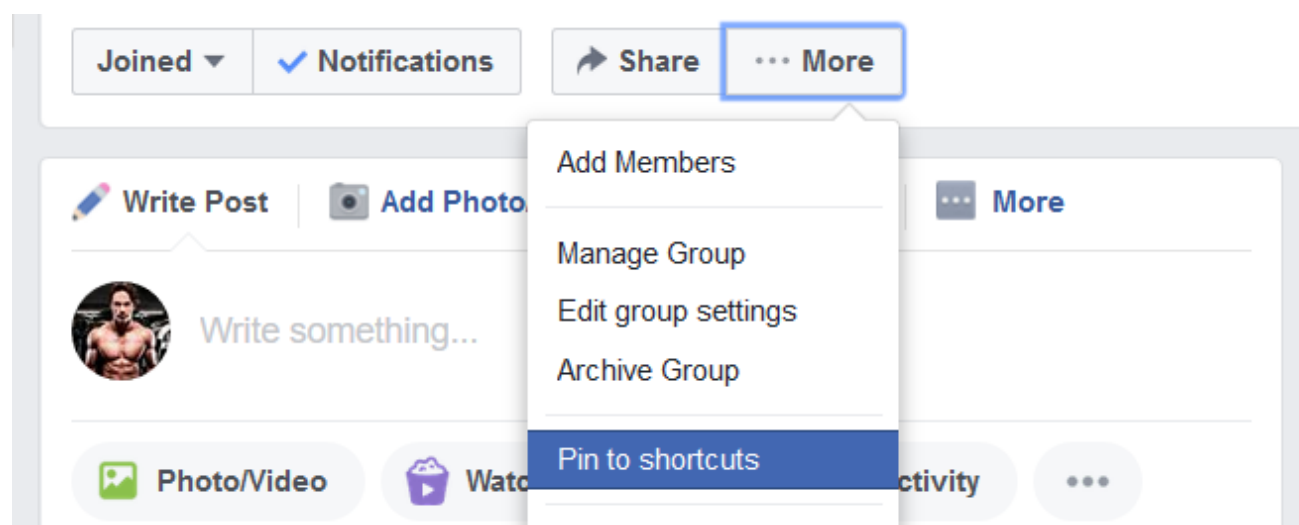
Feel free to comment on all the topics! We have world class athletes, academics of various disciplines and personal trainers with decades of experience here. Plus, you're going to spend 8 months with your fellow class mates. Networking and interacting with

your classmates can greatly enrich your experience of the course. Many people from previous courses have made long term friends in this course.

Of course, it's also perfectly fine if you just want to lurk in the background and read the contents without interacting with the group.

## Technical tips

To easily get into the course group, it's useful to create a shortcut that will get you into the group via a single click from your Facebook home page. The image below shows how you can do this.



Most course contents, including the document you're reading right now, have an index. If you open the Navigation Panel (Word) or Bookmarks (PDF) on the left, you will see the index. This makes it much easier to navigate the documents.

Facebook also offers the following useful features:

- In-group live video Q&A.

- Easy file sharing.
- You can tag people you ask a question.
- Nested, live comments.
- You can subscribe to comment notifications by Liking a post and Unsubscribe by right clicking in the top right corner of a post.

## The rules

### Questions

There are a few rules to keep things organized.

To centralize the discussion, please stick to the topic of the week and post your questions and comments in the related post. Do not create separate posts for each question. It would quickly clutter up the course and every post you make sends a notification to every other student in the course.

If you have a question about a topic other than the weekly topic, check the course outline to see if it will be discussed later. It most likely will. There are also specific catch-up weeks in the course with a live Q&A video where you can ask questions about any previous topic.

For questions that are unrelated to any topic or just general banter, please use the [course chatroom thread](#).

If I 'Like' an answer to a question without commenting, it means I agree with it and have nothing to add.

Feel free to answer other people's questions if you have a useful answer! I'm certainly not the only person in the group that can provide useful information.

## Case studies

The exception to the rule of creating posts is posting case studies. A case study is a question that requires too much context to be answered in a single Facebook Comment.

If you have a client case study that you would like to share or want feedback on from the course members, you can post it in the Facebook group if you follow these rules.

1. Post it in a Q&A week. There's a week for nutrition Q&A and a week for training Q&A. You can see when these weeks are in the course outline.
2. Start the post with #CaseStudy and attach a document with as much information about the case as possible.
3. State your specific (!) question.  
 Example of a good question: How do I calculate this person's BMR?  
 Example of a bad 'question': Please design my client's program for me.
4. Include exactly what you think the answer to the question is. In the above example, include all your calculations with every intermediate step, not just "Is it 2043?"

Then we will discuss it together.

Note that a case study is for a highly specific question (or set of related questions) specific to a current course topic: we can't help you with "Please create an entire program for my client". Case studies amounting to a request for free program design will be deleted.

If you have a personal question that does not benefit anyone else, e.g. a personal medical issue, you can email me at my clients-only email address

[Coaching@MennoHenselmans.com](mailto:Coaching@MennoHenselmans.com).

## Payment

Please make sure your payment is in order. Any time I have to spend on bureaucratic stuff is time I can't spend on the course!

If you are paying via Paypal and for whatever reason, like insufficient funds or an expired credit card, your payment profile is cancelled, you have to [re-register on my site](#) via the registration form and select Paypal as your payment method. Re-activating the old payment profile is often not allowed by Paypal. Make sure you let us know that you re-registered via [Info@MennoHenselmans.com](mailto:Info@MennoHenselmans.com) so that we can cancel your new payment in time, otherwise you'll be automatically overbilled(!)

If you pay via automated bank transfer, check that you've set up the automated payment profile correctly and it transfers the same amount every month with 'OUR' as the transaction cost option. If the payment isn't automated monthly with a constant amount, my bank may not register the payment.

For any questions about your payment, you can contact my administration at [Info@MennoHenselmans.com](mailto:Info@MennoHenselmans.com).

## Copyright

All contents of this course are copyrighted by me. However, I'm perfectly ok with you sharing excerpts or quotes to friends or posting them online if you mention that it's from the PT Course [with a link](#).

For certain practical guides, I will note explicitly that you can share them with your own clients.

Happy learning!

## Course outline

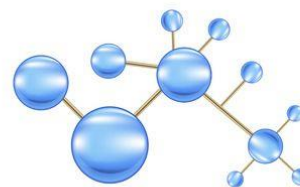
The updated course outline - when we will discuss what - can be found below. As new contents are posted, I will hyperlink to them in the outline so that the outline provides easy oversight to all the materials. It's advisable to bookmark this document link in your browser so that you can easily access the overview and jump to the topic you want.

To roughly summarize the course, the first part of the course deals with nutrition, the second part with exercise science and then several miscellaneous topics are discussed.

The course outline is subject to change based on feedback during the course, new additions and updates to incorporate new research.

### Week 1

- Do-it-yourself science
  - How to find and read scientific papers
  - Understanding statistics
  - Improving your logical reasoning skills
- Biochemistry 101
  - How the body produces energy from proteins, carbohydrates and fats



### Weeks 2 & 3

- Human metabolism
  - What is energy? Thermodynamics and energy balance
  - Determinants of energy expenditure, refeeds, set-point theory, metabolic damage, adaptive thermogenesis, reverse dieting and the yo-yo effect
- Optimizing energy intake
  - Cutting, bulking and body recomposition
  - How to optimize nutrient partitioning
  - How to estimate body fat percentage
  - Macro tracking: common pitfalls





- How to measure progression and body composition

## Week 4

- Protein
  - Protein requirements
    - Protein quality
    - Vegetarians
    - Gender, PEDs, training volume
    - Surplus vs. deficit
  - Protein timing
    - Protein absorption limits
    - The anabolic window, fasted training & workout nutrition
    - Protein synching
    - Meal frequency



## Week 5

- Carbohydrates
  - Types: simple vs. complex, GI, GL, II, fructose
  - Glycogen
  - Requirements per type of exercise
  - Carbohydrate timing
  - Effects on muscle growth
  - Dietary fiber
  - Carbohydrate tolerance



## Week 6

- Dietary fat
  - Types: lipids, triglycerides, fatty acids
  - Health effects and functions of the different fatty acids
  - Cholesterol metabolism, health effects and optimal dietary intake
  - Brown fat
  - Effects on hormone production
  - Optimal intake for muscle growth

## Week 7

- Ketogenic dieting
  - Ketosis levels, starvation mode and net carbohydrate intakes
  - Keto-adaptation and the keto flu
  - Effects on health, metabolism, appetite, performance and protein balance
  - Cyclical and targeted ketogenic dieting
  - Measuring ketosis
  - MCTs and exogenous ketones
  - Who is it for? Indications and contraindications
  - Implementation



## Week 8

- Fasting and circadian rhythm effects
  - Intermittent fasting & alternate day fasting
  - Protein sparing modified fasting
  - Circadian rhythm effects: timing considerations for the macronutrients
  - Carb backloading
  - Interaction effects between carbs and fats

## Week 9

- Lifestyle factors
  - Circadian rhythm control
  - How to optimize sleep quality
  - 
  - How to manage stress
  - How to effortlessly increase your activity level



## Week 10

- Beyond macros: micronutrition
  - Likely deficiencies
  - Bloodwork

- Multivitamins: problems and benefits
- The functions of each micronutrient related to fat loss, muscle growth and performance
- How to fill in your micros

## Week 11

- Health science and food choices
  - What makes a diet healthy?
  - Effects of food processing: heating, freezing, blending
  - Organic, wild and grass-fed
  - Low calorie sweeteners, sugar and dietary fiber
  - Food choices for health and anabolism: Meat, fish, poultry, dairy, eggs, grains, wheat, gluten, soy, coffee, fruits, vegetables, chocolate, coconut, nuts, alcohol
  - Detox diets
  - FODMAPs and digestive health
  - How to recover from illness



## Week 12

- Ad libitum dieting: how to lose fat and gain muscle without tracking your macros
  - How to estimate diet satiety
  - Physiological vs. psychological regulation of hunger: eating speed, social effects, decision fatigue, sensory-specificity, portion size, biorhythm effects, exercise, sleep, body composition, palatability, meal frequency, sweeteners
  - Hunger management strategies

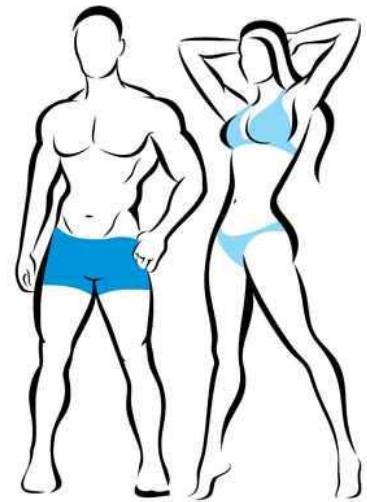
## Week 13

- Adherence: the psychology of how to stick to your diet and exercise program
  - Psychological effects of nutrition
  - Willpower
  - The psychology of coaching
  - Blood sugar

- Calorie cycling
- Goal setting
- Cheat meals
- Diet breaks
- Social eating events
- How to deal with social pressure
- Food cravings
- Flexible dieting and meal planning
- Assessing client adherence and motivation

### Week 14

- Contest prep and the peak week
  - Physique sports divisions
  - Carbohydrate loading
  - Electrolyte manipulation
  - Diuretics and water cutting
  - 'Shitloading'
  - Posing
- Beauty
  - Acne
  - Tanning
  - Cellulite
  - Hair loss
  - Dandruff



### Week 15

- Nutrition case studies
- Live video Q&A



## Weeks 16 & 17

- Muscle anatomy and contraction
- Understanding how muscle grows
  - mTOR, MPS, satellite cells, myonuclei, metabolic stress, muscle damage, hyperplasia, sarcoplasmic hypertrophy, GAS
  - Systemic and local growth regulation: structural balance theory
- Strength vs. size & functional training
- Cardio for fat loss
  - The fat burning zone
  - Fasted cardio
  - Estimating energy expenditure per activity
  - NEAT compensation
  - EPOC
  - How to mitigate the interference effect
  - HIIT vs. LISS

## Week 18

- Program design fundamentals
  - Training intensity
    - Effects on fatigue, connective tissue and the nervous system
    - Strength vs. size
    - The muscle-specific hypertrophy method
  - Training volume
    - How to estimate recovery capacity

- How to optimize training volume based on recovery capacity
- Training frequency
  - Interaction with volume
  - Effects on recovery capacity
  - How often should you train each muscle?

## Week 19

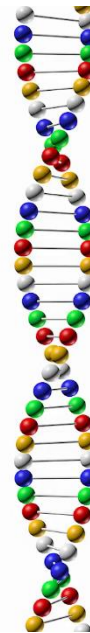
- Program customization
  - DNA testing
  - Estimating your maximum muscular potential, relative development and muscular balance
  - Work capacity
- Training women: gender differences, contraception, pregnancy, menstrual periodization, breast implants
- Training the elderly and youth

## Week 20

- Muscle functional anatomy: a visual guide
  - Ab training and spot reduction

## Week 21

- Exercise selection
  - Muscle functional anatomy: a visual guide
  - What makes an exercise effective for muscle growth?
  - Free weights vs. machines
  - Compound vs. isolation exercises
  - Accommodating resistance: biomechanics, bands and chains
  - Recommended exercises and technique guide
  - Counting volume: how much does a certain exercise stimulate a certain muscle?
  - Synergistic exercise selection: functional differentiation and how many exercises you should do per muscle



## Week 22

- Exercise technique & cueing
  - The mind-muscle connection
  - Repetition tempo
  - Strength vs. size

## Week 23

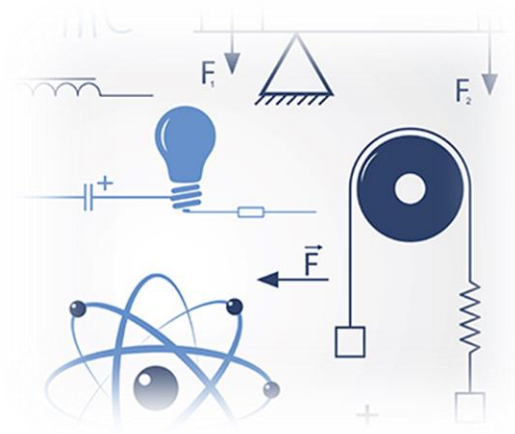
- How to structure your workouts
  - Rest intervals
    - Active recovery
  - Exercise ordering
    - Circuit training, (antagonistic) supersets and paired sets

## Week 24

- Periodization and progression
  - Progressive overload and progression models
  - What is fatigue?
  - Cybernetic/autoregulatory, undulating and linear periodization
  - Benchmarking and autoregulation
  - Overtraining, overreaching and deloading

## Week 25

- Training to failure
- Advanced strength training techniques
  - Forced reps and drop sets
  - RPEs and velocity monitoring
  - Reverse pyramiding, cluster sets and myo-reps
  - Weighted stretching
  - Eccentric overloading
  - Post-activation potentiation
  - KAATSU/blood flow restriction training



## Week 26

- Stretching
- Postural correction
- Warming up
- Injury management
  - Injury diagnosis, treatment and active recovery
  - Pain science
  - Ice vs. heat, NSAIDs and RICE
  - Rehabilitative equipment: braces, sleeves, tape
  - Foam rolling and massage
  - Chiropractic
  - Common injuries of each body part and how to treat them



## Week 27

- Training program case studies
- Live video Q&A

## Week 28

- Training gear
  - Weightlifting belts
  - Footwear: what to wear in the gym
  - Knee wraps
  - Lifting straps



## Weeks 29 & 30

- Supplements: a complete guide to every supplement worth knowing
- Hormones and drugs
  - Gender-specific regulation of sex hormones
  - Interpreting bloodwork
  - AAS: risk-reward and how to manage the side-effects



## Week 31

- How to create a successful PT business
  - Marketing
  - Advertising



## Week 32

- Exam preparation time with open Q&A
- Live video Q&A

## 19 & 20 October: Exam

## The exam

“Do I have to remember all of this?” you may ask yourself at times during the course. This is a course for grown-ups, so in principle the answer is simple: remember what you like. However, there is of course the exam. To know which contents you have to remember for the exam, you can apply a 2-step rule.

- 1) Would I ever have to explain this to a client as an evidence-based PT?

If so, 2) can I easily look this up?

If not, you have to remember it. If you can easily look it up or it's the kind of information you don't need regularly in practice, all you have to remember is where you can look it up in the course. Just like during the practice of online coaching, you are allowed to access all course materials during the exam ('open book' exam).

The exam is conducted online, so you can be anywhere you want. You have the entirety of 2 calendar days, the weekend of 19 & 20 October 2019, Amsterdam (GMT+1) timezone, to complete it (48 hours). If you take a break, however, ensure that your internet connection is stable and your browser remains open. If you close your browser

for whatever reason, you will lose all your data and you will have to start over(!) There is nothing we can do to prevent client-side problems like this, so prepare properly.

It takes many people over 6 hours to complete the exam, so make sure you schedule enough time in your agenda.

The exam consists of 70 randomized questions from a large database with several formats: true/false, fill-in-the-blank, multiple choice and essay/open.

You get a Latin grade: fail, pass, cum laude, magna cum laude or summa cum laude.

There are no resists. You can only submit one exam attempt in each course.

If you don't want to take the exam this round, you can postpone it to the next course round (as often as you want) by posting it in the exam thread that will be created in the Facebook group. If you don't post that you're postponing and do not submit an exam and the requested technique videos (see exercise selection topic), you auto-fail the exam.

The access information for the exam will be posted in the Facebook group before the exam starts.