



Course Title: Longing for Longevity: From Biology to Biohacking

Course Code: BIO 07

Instructor: Maddalena Adorno, PhD; Lucia Aronica, PhD

Course Summary:

Everyone wants to live longer, but nobody wants to get old. The emerging field of geroscience suggests this may be possible. In this course, we will describe the main theories around aging, with a focus on genetic and epigenetic mechanisms, find out about body clocks to measure the biological age of our cells and tissues, and explore ways to delay or even reverse aging through the use of lifestyle hacks, supplements, and so-called senotherapeutics. This is a course for those who are interested in understanding, critically evaluating, and using the latest discoveries in geroscience to live a healthier longer life.

**Please see course page for full description and additional details.*

***Students should consult their physician or other healthcare professional before modifying their diets.*

Grade Options and Requirements:

- No Grade Requested (NGR)
 - This is the default option. No work will be required; no credit shall be received; no proof of attendance can be provided.

- Credit/No Credit (CR/NC)
 - Students must attend at least 70% of the class meetings (4 out of 6).

**Please Note: If you require proof that you completed a Continuing Studies course for any reason (for example, employer reimbursement), you must choose the Credit/No Credit option. Courses taken for NGR will not appear on official transcripts or grade reports.*

Class Schedule:

Thursdays, 7:00 – 8:50 pm (PT)

6 weeks, April 22 – May 27

Please contact the Stanford Continuing Studies office with any questions
365 Lasuen St., Stanford, CA 94305
continuingstudies@stanford.edu
650-725-2650

WEEK 1. WHAT IS AGING AND CAN WE SLOW DOWN THE CLOCK?
INTRODUCTION TO GEROSCIENCE AND LONGEVITY MEDICINE HEALTHSPAN AND LIFESPAN THEORIES & HALLMARKS OF AGING OVERVIEW OF LONGEVITY INTERVENTIONS, SENOLYTICS, SENOBLOCKERS AND GEROPROTECTORS
WEEK 2. THE AGING SOFTWARE: EPIGENETICS & ENVIRONMENT
HOW MUCH OF AGING IS GENETIC AND HOW MUCH ENVIRONMENTAL? EPIGENOME AND ENVIRONMENT IN AGING EPI-NUTRIENTS & XENO-HORMESIS IN LONGEVITY MEDICINE CHRONOLOGICAL AND BIOLOGICAL AGE BIOMARKERS OF AGING AND AGING CLOCKS (OMICS, CLINICAL/FUNCTIONAL TESTS, AGING MECHANISM-BASED, AND DEEP CLOCKS)
WEEK 3. REPROGRAMMING THE SOFTWARE: LIFESTYLE LONGEVITY MEDICINE
A SYSTEM APPROACH TO LONGEVITY MEDICINE NUTRITIONAL LONGEVITY INTERVENTIONS PHYSICAL ACTIVITY PSYCHOLOGICAL AGE & LONGEVITY MINDSET SLEEP MICROBIOME: PREBIOTICS, PROBIOTICS, SYMBIOTICS, METABIOTICS
WEEK 4. MYTH AND REALITY IN LONGEVITY INTERVENTIONS
FROM THE STANFORD PARABIOSIS STUDIES TO “BLOOD BOY” THE METFORMIN CASE STUDY ONGOING AND UPCOMING CLINICAL TRIALS IN AGING EFFECTS OF GEROPROTECTORS ON AGING CLOCKS
WEEK 5. THE EMERGING SCIENCE OF SENESENCE
THE BASIC SCIENCE OF SENESENCE SENOLYTICS, SENOBLOCKERS, AND SENOMODULATORS IMMUNOTHERAPY AGAINST SENESENCE CELLS
WEEK 6 YOUR LONGEVITY ACTION PLAN, FUTURE OF LONGEVITY MEDICINE, AND Q&A

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