Understanding Genetics for Improving Health Outcomes

March 2019

Continuing Education Course Code: CEUGH

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Course Title: Understanding Genetics for Improving Health Outcomes

Course Code: CEUGH

Pre-requisite: None

Credits: 07

Course Website: https://instituteofholisticnutrition.com/understanding-genetics/

Method of Delivery: In-Class and Livestream

Course Description

The course is intended to provide the tools that holistic nutritionists can use to deliver personalized healthcare to their clients, catered to the genetic makeup of the client. Genetics plays a very robust role in nutrition, detoxification, weightloss and overall health and wellness. Furthermore, genetics can be used not only to improve the health of the clients but also to develop DNA based nutritional plans that can potentially prevent development of chronic diseases. Course participants will gain knowledge on how genetic information can be used to deliver nutritional plans, weightloss strategies, detoxification plans, hormonal balance plans along with nutritional plans to prevent development of chronic disease such as diabetes and cardiovascular diseases.

IHN has partnered with Anantlife Canada Inc., a leader in clinical grade genetic testing for healthcare providers all over the world, to offer a Certified Genetic Testing Provider Certificate upon successful completion of the

course. Successful completion of the course implies that the candidates have received the education and training to not only understand genetic concepts pertaining to diet, nutrition, detoxification, fitness, hormonal health and metabolic disorders but have also been trained on interpretation of the genetic testing reports along with development of a DNA based health plan for better health outcomes.

Course Objectives

While enrolled in this course, the student can be expected to:
- Gain an overall understanding of basic cellular and molecular biology to understand how nucleic acids (DNA, RNA) play a role in regulating overall homeostasis and the basis of how changes in nucleic acid can impact cell biology.
- Gain a deep understanding of nutritional genetics, fitness genetics and genetics of chronic metabolic disorders such as diabetes and cardiovascular diseases.
- Gain a deep understanding of detoxification genetics, hormonal genetics, skin genetics, genetics of neurotransmitter synthesis and breakdown along with genetics of endocannabinoid pathways.
- Learn how to not only understand genetic analysis in relation to the above-mentioned genetic pathways but also how to deliver the information to the clients along with nutritional/dietary strategies that can be incorporated to improve the overall health of the clients.
- Gain expertise in analysis of genetic testing report and developing health plans for clients.

Learning Outcomes

Upon completion of this course, students will have demonstrated the ability to achieve following outcomes:
- Understand the connection between health and genetics and more importantly gain an understanding of how the same dietary/nutritional plan cannot have efficacy for everyone owing to the differences in genetics.
- Detailed understanding of how genes play a role in regulating dietary intake, nutritional profile, response to various fitness regimens, weightloss, detoxification, brain health and overall response to cannabis.
- Learn to apply genetic testing as well as genetic analysis to develop truly personalized health plans for clients to optimize/improve their health with a high success rate for efficacy.

Learning Resources

Supplementary Text/Other:
Course Notes – Peer reviewed articles from scientific publications and PowerPoint Presentation

Course Schedule

Last revised [March 2019]

Session	Topic	Readings/Activities	Evaluations
1	Introduction to molecular genetics, molecular biology and human genetics	Session 1 - Course Notes	Discussion - Participation
2	Nutritional and dietary genetics: how do our genes regulate our nutrition and nutritional health?	Session 2 - Course Notes	Discussion - Participation
3.	Fitness genetics and genetics of chronic diseases: how do our genes regulate our response to exercise and how do genes regulate the risk of chronic metabolic disorders?	Session 3 - Course Notes	Discussion - Participation
4.	Detoxification genetics: how do our genes regulate detoxification which indirectly impacts overall health and disease risk?	Session 4 - Course Notes	Discussion - Participation
5.	Neurogenetics: how do our genes regulate the synthesis and breakdown of neurotransmitters and its impact on our health?	Session 5 - Course Notes	**Take-home test on sections 1-4, due during session 6**
6.	Genetics of endocannabinoid pathways: how do our genes regulate the response to cannabis?	Session 6 - Course Notes	
7.	Skin genetics: how do our genes regulate our skin health?	Session 7 - Course Notes	**Take-home assignment – due during session 8**
8.	Discussion and practical applications of genetic tests discussed in sessions 2-7	Session 8	

Evaluation and Due Dates

Students will be evaluated in this course through:

Take home Exam   50   %

Take home Assignment   50   %

TOTAL   **100%**

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NOTE: Test and assignment are take-home only.

Rules & Regulations

- Participation is mandatory. Students are required to attend at least 6 classes to pass this course.
- Only electronic submissions of the test and assignment are accepted.
- Please submit required test and assignment directly to Dr. Kushwah at rahulkushwah@anantlife.com
- The pass mark for this course is 70%, which is also needed to receive the Certified Genetic Testing Provider Certificate from Anantlife.
- All other school policies (see IHN Rules & Regulation Guide) apply.

Late Work Policy

Penalty for late test/assignment is a ten-percent deduction from the final mark