

Module number	EM10
Module name	Nutrigenomics and Nutrigenetics
Program of Study	MSc elective module
Offered	Once a year, winter semester
Module coordinator	Prof. Dr. Frank Döring
Module advisor	Prof. Dr. Frank Döring
Courses and teachers	<p>Lecture: Nutrigenomics and -genetics course (F. Döring)</p> <p>Exercise: Special Nutrigenomics F. Döring</p> <p>Exercise: Bioinformatics F. Döring</p>
Prerequisites	Understanding of biochemistry, nutrition physiology, basic knowledge of genetics/molecular biology
Language	English
Module capacity on campus students	24, Registration during the 1 st lecture
Module capacity off campus students	-
Course types (classroom/ total workload)	Lecture (30 h /90 h), exercise (15 h /45 h), exercise (15 h/ 45 h)
Schedule	weekly during the lecture period, laboratory-discussion as a block course during the lecture period (in agreement)
Grading	Written exam 100% F. Döring
ID-card	Required for exams
European Credit Points	6
Module objectives	<p>Knowledge of</p> <ul style="list-style-type: none"> ▪ nutrient relevant pathways of metabolism and cellular signaling cascades ▪ regulation of metabolism pathways in different levels (molecular, cellular, level of organ, organism) of biological integrity ▪ basics of genetic variations ▪ constitutive databases and their appliances
Contents	Regulation of metabolism on the molecular and cellular level and the level of organism, polymorphisms and metabolic phenotype, functional genomics, epigenetics, databases, nucleic acids, proteins, 3D
Taught skills	field, methodological and applying expertise
Course materials	<ul style="list-style-type: none"> ▪ Rehner and Daniel: Biochemie der Ernährung, Spektrum. 2002, 2. Auflage ▪ Löffler, Petrides: Biochemie und Pathobiochemie. Springer. 2006, 8. Auflage ▪ Strachan, Read: Molekulare Humangenetik. Spektrum. 2005, 3. Auflage <ul style="list-style-type: none"> - Passarge: Taschenatlas der Genetik. Thieme. 2004, 2. Auflage

- Rimbach, Fuchs, Packer: Nutrigenomics, CRC Press. 2005
- Brigelius-Flohe, Joost: Nutritional Genomics. Wiley. 2006.
- Ordovas: Nutrigenetics and Nutrigenomics. Wiley. 2004
- Baxevanis, Ouellette: Bioinformatics. Wiley. 2005, 2. auflage
- Pevsner: Bioinformatic and Functional Genomics. Wiley. 2003
- Articles in scientific journals