



Health effects of food components

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Monographic lectures for PhD students (15 hrs)

The lecture course syllabus:

1. Multiple roles of alimentary tract (2 hours)
 - absorption of food components, impact of food processing
 - protection against toxic components
 - immune function and allergies
 - sensing hunger and satiety
 - dietary preferences, why do they differ
 - protection against foreign genomes/genome function regulators?
2. Interaction between food components and human genome (3 hours)
 - nutrigenetics and mono- or polygenic food related disorders
 - nutrigenomics and how food components modulate the genome function
 - epigenetics and how we pay for parents' poor dietary habits
 - epi-nutri-genomics and what we can do for ourselves
3. Malnutrition, overeating and proper dietary habits - what measures are used (2 hours)
 - malnutrition resulting from poverty and diseased state,
 - obesity the greatest killer of today
 - loosing weight, why so difficult; starving can be good for you
 - natural, organic, balanced, traditional - a few words about food semantics
 - why dietary recommendations fluctuate
 - food industry a friend or foe?
4. Some nutrients are better than others (3 hours)
 - saccharides; the case of glucose vs. fructose
 - proteins; animal vs. plant
 - lipids; saturated, unsaturated, trans
 - vitamins; the case of vitamin D
 - micronutrients; the case of Se
5. Diet related diseases and dietary chemoprevention (3 hours)
 - diet and cancer
 - diet and other civilisation diseases
 - anticarcinogenic food components; very special case of brassicas
 - antioxidant food components; very special case of berries
 - coffee, tea, chocolate no longer forbidden



6. Microbiome and its newly recognized influence on human wellbeing (2 hours)
 - assisting digestion and food absorption
 - prebiotics and probiotics
 - in what way intestine microflora may decide about our food choices
7. On-line sources of reliable dietary information (1 hour)