What are the main fields of academic study?

**Natural Sciences**
- Biology
- Astronomy
- Geography
- Mathematics
- Physics
- Technology

**Social Sciences**
- Sociology
- Psychology
- Economics
- Business
- Politics
- Behavior

**Humanity Sciences**
- Culture
- History
- Language
- Music/art
- Religion
- Drama

**Objective, quantitative**

**Cause-effect, predictive holism**

**Subjective, qualitative**

Food & medicine moving closer?

- Food Culture / Mental Health
- Traditional Chinese Medicine
- Food & Body in Religion

- Functional Foods
- Animal/Human Nutrition

-and closer to philosophy?
The sciences – main categories:

Social sciences
- Rationality
- Cause-effect
- Economic
- Business
- Political
- Behavior
- Objective/Subjective

Natural sciences
- Biology
- Cause-effect
- Predictable
- Reductionism
- Rational, logical
- Physics
- Astronomy
- Mathematics
- Technology

Human sciences
- Value-ethics
- Feelings/Humans
- Language
- Music/art
- Religion
- Subjective

Food & medicine science philosophy
Classical Western
- (dualism-reductionism
- Greek philosophy – Christianity)
- Bottom—up
- Body
- Nutrition & Health
- Clinical
- Nutrition & Disease
- Nutritional Sociology
- Applied nutrition
- Pharmacology
- Pathology
- Physiology
- Biochemistry
- Cell biology
- (Nutritional and medical)

Classical Eastern
- (holism-balance,
- Nature mysticism - Taoism)
- Top—down
- Body Nutrition & Health
- Clinical Nutrition & Disease
- Nutritional & Clinical Sociology
- Applied Nutrition
- Pharmacology
- Pathology
- Physiology
- Biochemistry
- Cell biology

"Soft science"
(function-effect)

"Hard science"
(structure-mechanism)
Bioinformatics in modern biology versus "pattern-recognition models" in Traditional Chinese Medicine

**East:**
- Experiential: Hirachy of Yin and Yang combinations. 5-element pattern recognition system
- Historical functional picture
- System biology pattern recognition Bioinformatics
- Action
- Optimal diet and health

**West:**
- Experimental: Genomics Transcriptomics Proteomics Metabolomics
- Mathematical structural network
- Human Nutrition evidence hierarchy

**Human Nutrition evidence hierarchy**
- Cochrane analyses, human populations
- Large-scale observational studies
- Cell model studies
- Controlled human intervention studies
- Animal model studies
- Chemistry-Mathematics-Physics

Better mechanistic insights
Increased safety and relevance
Nutritional/medical evidence hierarchy

1. **Cells**
2. **Tissue**
3. **Organs**
4. **Body**
5. **Population**

- **Complete evidence**
- **“Food and medical mechanistic science”** (structure-mechanism)
- **“Social and behavioural public health science”** (function-effect)

**Nutritional and medical**
- Nutrition
- Sociology
- Pharmacology
- Pathology
- Physiology
- Biochemistry
- Cell biology (Nutritional and medical)

**Health of individuals/populations**

**Cells**

**Tissue**

**Organs**

**Body**

**Population**