

# Challenges for Curriculum Development

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*Prof. V. Shatokha*

- Further utilising of the Programme
- Philosophy of the Programme
- Methodology of curriculum development
- Responsibilities of Partners
- Quality Assurance

# Further utilising of the Programme

- **For Ukraine only**
- **or**
- **As International Master Programme (e.g. through Erasmus Mundus)**

## Related Challenges

- **Compatibility of standards (ECTS, workload, grading systems, admission criteria)**
- **Joint/Double Degree** (*for Sweden not possible*)
- **Language of instruction**
- **Structure of the Programme**
  - ✓ *Length of Course (Recommendations of the Bologna seminar in Helsinki, 2003, normally 90-120 ECTS credits, and no less than 60. The most of Master programmes range between 60-75 ECTS)*
  - ✓ *Modularisation*



# Philosophy of the Programme

- Professional versus Research Oriented
- “Universal” ?

## Related Challenges

- Subjects
- Learning outcomes
- Access to PhD cycle
- Interdisciplinary aspects
- Employability



# Subjects

## *As Declared in the Project*

*Following new subjects each of 4 ECTS credits will be introduced:*

- **mandatory courses**

- ✓ Nanomaterials and Nanotechnology
- ✓ Advanced Metals Chemistry
- ✓ Fluid Mechanics and Heat Transfer
- ✓ Applied Numerical Methods
- ✓ Technology and Sustainable Development
- ✓ Cleaner production

- **elective courses:**

- ✓ Industrial Waste Management
- ✓ Sustainable Project Management
- ✓ Finite Element Method

Updating of existing professionally oriented subjects will be focused to introduce into content brand-new research developments according to experience of EU colleagues. Existing subjects of EU Universities will be taken as a basis to develop new disciplines



# PhD Programme

## *As Declared in the Project*

- Improvement of Metallurgy PhD programme will be addressed to introduce the EU academic experience with setting up of **new special courses** and **interdisciplinary seminars**.
- Special courses will address familiarisation of PhD students with: advanced mathematic methods (e.g. Numerical Mathematics); Sustainable Development Strategy; special chapters of appropriate fundamental disciplines (e.g. Nonequilibrium Thermodynamics, Chemistry of Solid State, Fluid Mechanics etc).



# Methodology of curriculum development

## *As Declared in the Project*

***Methodology of curriculum development will be based on the following principles related to the Bologna process:***

- ***transparency and International comparability of a programme as a basis for mobility, recognition, dual graduation/double diploma practice and in long-term perspective joint graduation within current consortium and wider***
- ***alignment of UA educational standards with extensive inclusion of advanced EU curriculum development philosophy***
- ***more specific weight to laboratory work and experimental teaching will be given.***



# Responsibilities of Partners

- **Curriculum Development**
- **Curriculum Evaluation**
- **Curriculum Implementation**

## Related Challenges

- What are the core subjects
- What we have to share with
- What we need to develop



# Quality Assurance

- accreditation through the procedure of the State Accreditation Commission of Ukraine foreseen in the project

## Related Challenges

- Internal QA procedures (Students evaluation of teaching, Monitoring, Pilot study cycle)
- Involving of non-academic stakeholders (industry)



# Pilot study cycle

## *As Declared in the Project*

***The pilot study cycle will be designed to analyse:***

- ***quality of developed programme in general;***
- ***how UA students adapt to their new learning environment;***
- ***how international mobility affects learning outcomes;***
- ***how developed credit-modular structure works internationally.***

