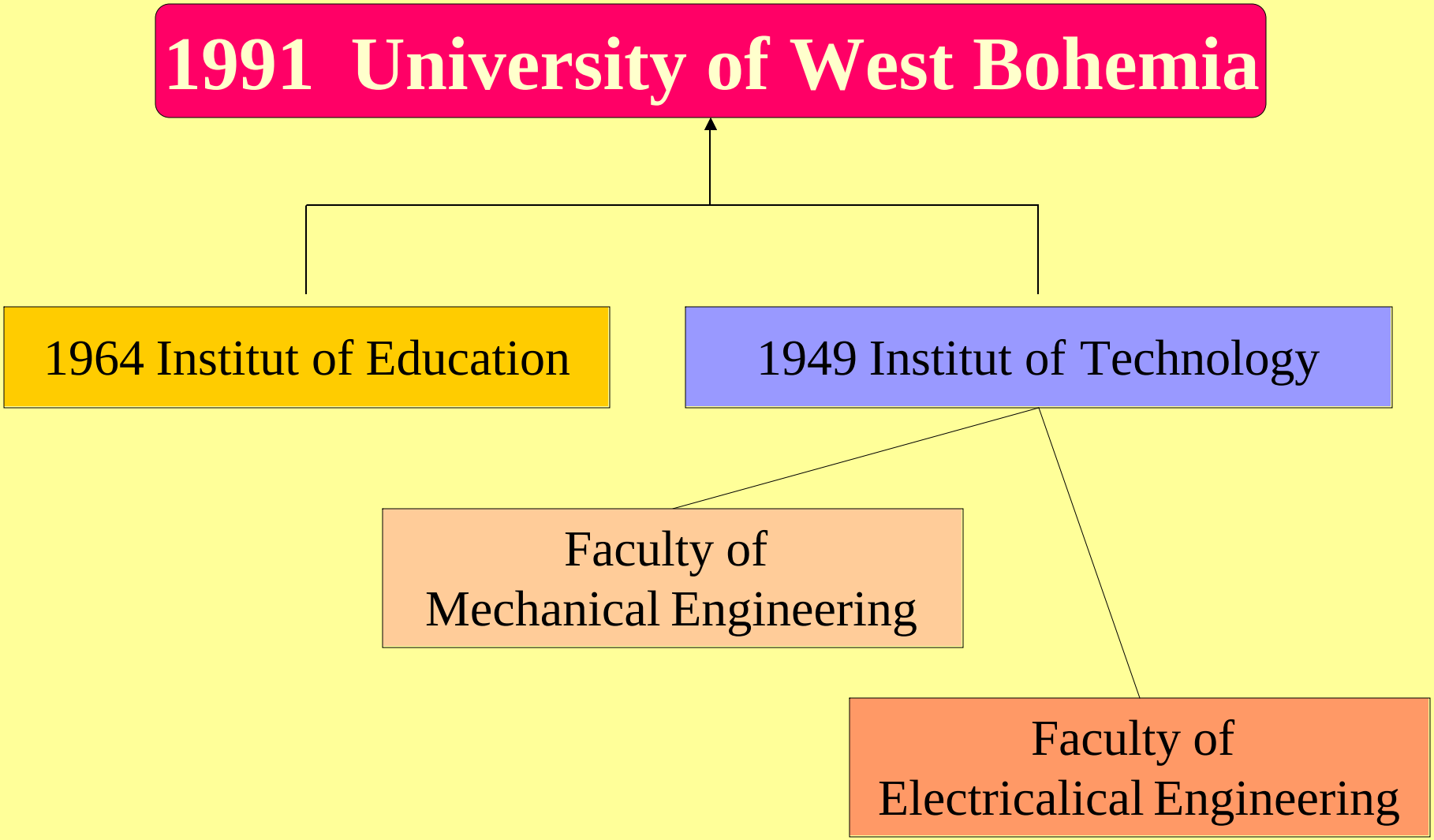
Development of the compatible electrical power engineering curricula of the Central Europe universities

Miloslava Tesarova
Jan Mühlbacher
Zdenka Benesova

History of University of West Bohemia in Pilsen
CZECH REPUBLIC



University of West Bohemia

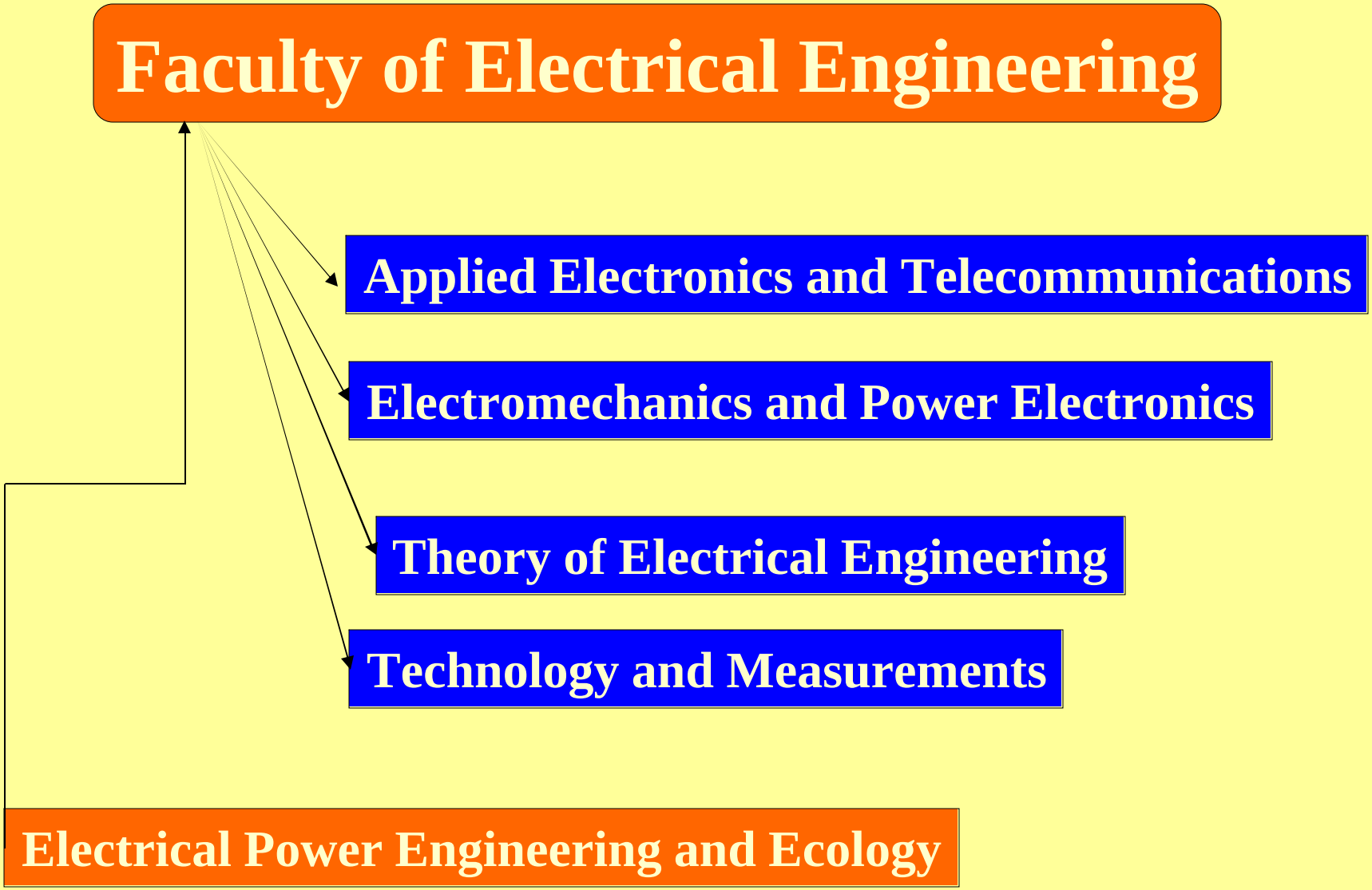
1991

- Mechanical Engineering
- Electrical Engineering
- Applied Sciences
- Education

1992 - 1997

- Economics
- Law
- Humanities

13 000 students + 500 PhD


Faculty of Electrical Engineering
Applied Electronics and Telecommunications
Electromechanics and Power Electronics
Theory of Electrical Engineering
Technology and Measurements
Electrical Power Engineering and Ecology

Faculty of Electrical Engineering

- **Bc. study programme**
- **MSc. study programme**
- **PhD study programme**

1300 students in Bc. and MSc. study programme

150 students in PhD study programme

Following changes were suggested at our faculty in the last years:

- **University curricula (introduction of credit system)**
- **Study programme (5-years study were replaced by Bc. and Mgr. degree)**

The aim:

***to approach EU standards, compatibility of entire curricula in CE and EU universities**

EU programmes for international co-operation among universities: TEMPUS, SOCRATES-ERASMUS, CUPERTINO

ERASMUS PROGRAM

- **16 projects at faculty**
- **12 projects at our department**

Co-operated partners of our department

- **Brunel University of West London (GB)**
- **Technical University at Graz, Klagenfurt (Austria)**
- **University of Applied Sciences in Regensburg, Berlin, Erlangen (BRD)**
- **Technical University in Zwickau, Amberg, Chemnitz, Illmenau (BRD)**
- **ESIEE Paris, France**
- **Technical University in Kosice (SK)**

Student´s mobility : 3 – 4 months studium (EU fellowship)
Staff´s mobility : one week lectures stay

EU programme

à **Erasmus project in the years 2001-2003:**

Harmonization of Electrical Power Engineering Curricula

à **Following new project in the years 2003-2005:**

Integration of topical problems into electrical power engineering curricula

Co-operations partners

- **Department of Electrical Power Engineering and Environmental Engineering of UWB, Czech Republic**
- **Technical University Regensburg, Germany**
- **Technical University Kosice, Slovakia**

Project description

- **Duration of 3 years**

The aim:

- **to integrate topical problems related to power generation and distribution problems into electrical power engineering curricula**
- **to harmonize teaching in this field within a tri-university partnership**
- **to complement the existing Electrical Power Engineering MSc. study programmes offered at each partner university**

Structure of MSc. Study programmes:

Electronics, Electrical Machines, Electrical Drivers, Power Electronics

Transmission and Distribution of Electric Power, Transient Processes in Power Engineering, Power Plants, Power Substations, Electrical Apparatus

High Voltage Engineering, Measurement Methods in H-V Engineering, Unconventional Power Sources

1. **Courses kept**
2. **Courses re-designed**
3. **Courses newly designed**

Re-designed courses

The already existing courses will be re-designed according to uniform content so as to ensure compatibility of study programmes at each partner university:

University of West Bohemia, Czech Republic

- Power Lines and Substations
- Electrical Apparatus
- High Voltage Engineering

Technical University in Regensburg, Germany

*Power engineering appliances

*Power Engineering and Electrical Apparatus

*High Voltage Engineering

Technical University Kosice (TUK), Slovakia

- Power Substations
- Electrical Apparatus
- High Voltage Engineering

New courses

- **Power generation**
- **Power networks simulation and modelling**
- **Reliability and quality of power supply**

Project benefits

- **Uniform educational standards in electrical power engineering at partner universities**
- **Jointly designed teaching materials**
- **Flexible mobility of the human resources of the partner countries across Europe**
- **Compatibility and comparability of study programmes and bigger competition of European higher education institutions**
- **More attractive study abroad for students**

Previously published textbooks

ZÁPADOČESKÁ UNIVERZITA V PLZNI

Thanks for your attention

Ing. Miloslava Tesarova, Ph.D. tesarova@kee.zcu.cz
Assoc. Prof. Ing. Jan Mühlbacher, Ph.D. muhl@kee.zcu.cz
Prof. Ing. Zdenka Benesova, Ph.D. bene@kte.zcu.cz

Department of Electrical Power Engineering
and Environmental Engineering
University of West Bohemia

Pilsen, Czech Republic