DE NAYER

CAMPUS DE NAYER

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Overview

Introduction to De Nayer.

New curriculum in space engineering.

Study visit of teachers and students of TDAI at De Nayer (June 2008).

By Peter Arras.

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Belgium: heart of Europe.

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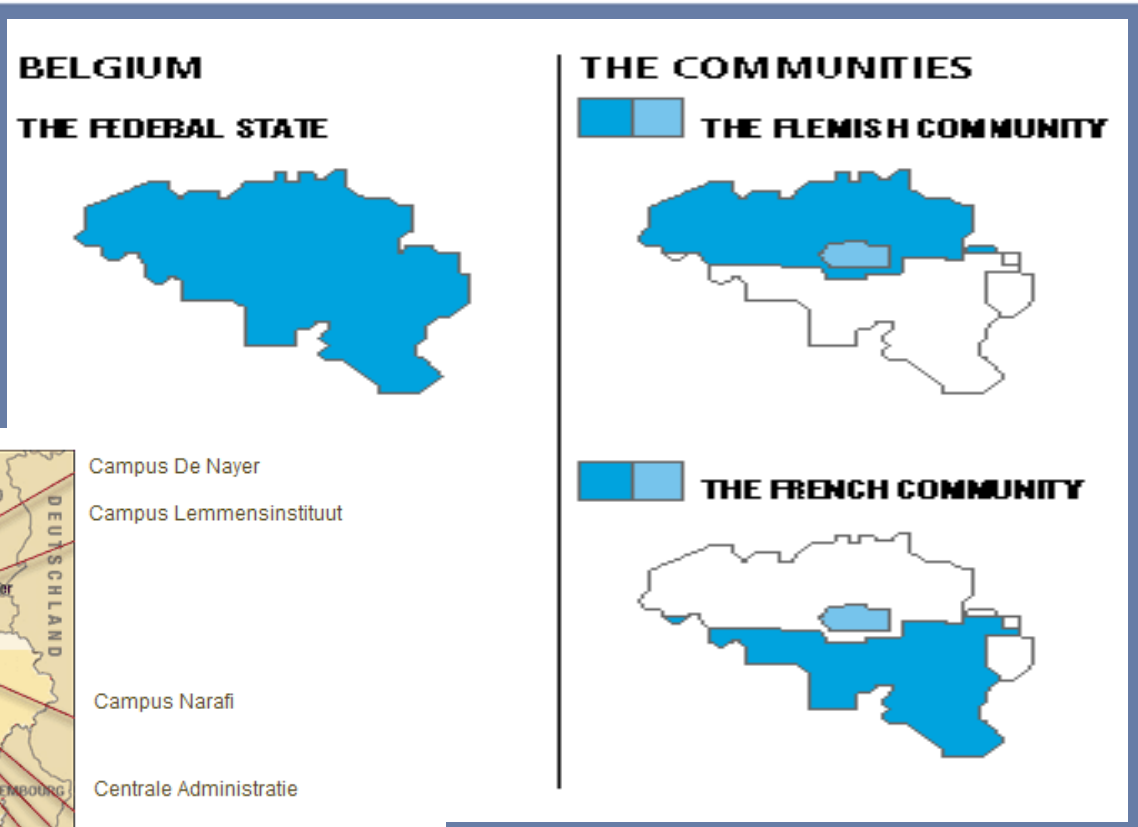
BELGIUM: A FEDERAL STATE



Campus Sint-Lucas Beeldende Kunst

Campus Sint-Lucas Architectuur Brussel-Gent

Campus De Nayer

Campus Lemmensinstituut

Campus Narafi

Centrale Administratie

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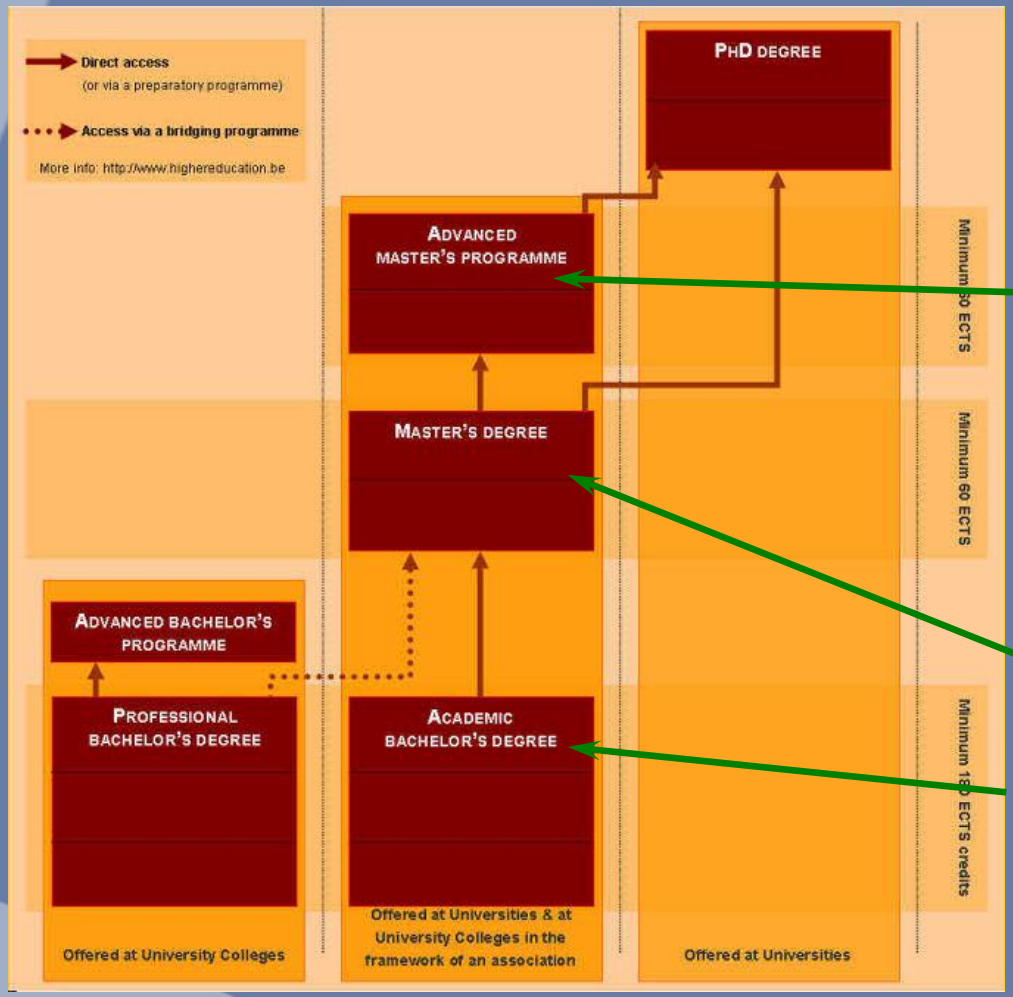
HIGHER EDUCATION IN BELGIUM



Welding engineer

-Electro mechanics
-Construction
-(Bio)Chemistry
-Electronics-ICT

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Ing. P.Arras

DE NAYER INSTITUUT

DEPARTMENT

INDUSTRIAL SCIENCES

Engineering: Ba, Ma, PHD

DEPARTMENT TECHNOLOGY

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Research

Applied research: technology translation
- Sponsored by government and industry
- Implementations in SME (Small & Medium sized enterprises) of new technologies

Knowledge centers:
- Powder technology (VCPT)
- Sustainable energy (Thermac, Ideg)
- Biochemistry
- Micro welding

Accredited test labs for materials and EMC

Cooperation with industry

- We cooperate with industry for trainings, calculations and other complex technical problems:

- CAE-training for engineers and technical staff for the innovative industry (e.g. ASCO (aviation: wing and undercarriage systems), BARCO (displays for cockpits), Van Hool (busses and trucks)
- Strength (of material) calculations for industry (e.g. Pauwels Trafo int.(power distribution), ARPLAN (composite fuel tanks))
- Geometrical measurements and reverse engineering (e.g. Metris, Materialise)
-

International cooperation

- Internships in researchgroups
- English semester: sustainable engineering
  - 30 ECTS: courses and student project

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Some laboratories

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”New curriculum in the field of Space Engineering”

at Tashkent State Aviation University (TDAI)

TEMPUS JEP 27042-2006

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Overall goal of the courses of CAD/CAE

Teach engineering students how to make use of CAD/CAE-techniques and technical drawings to communicate their design ideas to others conform legal rules and norms.

CAD techniques are a tool for smoother, faster and thus better design.

Materials provided in the project:

Laboratory infrastructure:

- license server
- classroom Pc's for the courses

Original course material

Software:

- licenses Pro Engineer for use in classroom

Pro/ENGINEER® CAE Solutions

VIRTUAL PROTOTYPING FOR DESIGN OPTIMIZATION

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Course shedule

- Theoretical course on technical drawings (16 hours)
- Laboratorial course Pro Engineer Basics (44 hours)
- Laboratorial course Pro Engineer advanced (60 hours)
- Introduction to CAM (4 hours)

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Theoretical course on technical drawings (16 hours)

- Introduction to the design process
- Imaging objects
- Sections
- Dimensioning and annotations

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Pro Engineer Basics (44 hours laboratorial works)

- Introduction to 3D modelling
- 3D Parts modelling
- Assembly modelling
- Technical drawings from 3D CAD-models
- Geometric Product Specifications

Pro Engineer advanced (60 hours laboratorial works)

- Advanced techniques
  - Family tables (group technology)
  - Analysis
  - Mechanisms
  - Top down design: layouts
- Sheet metal design
- Surface modelling
- Introduction to the technology of CAM (Computer Aided Manufacturing)

Study visit of teachers and students at De Nayer (June 2008).

- Testrun of the curriculum, module CAD/CAE
- Study visits to ASCO aviation factory
- Study visit to control center of Antwerp port
- Cultural visit to Brussels, capital of Europe
- Study visit to the ground services at Brussels national airport
- Study visit to the Euro Space center

Meeting with the dean of De Nayer department of engineering.

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Visit to ASCO industries: world market leader in airplane wings systems.

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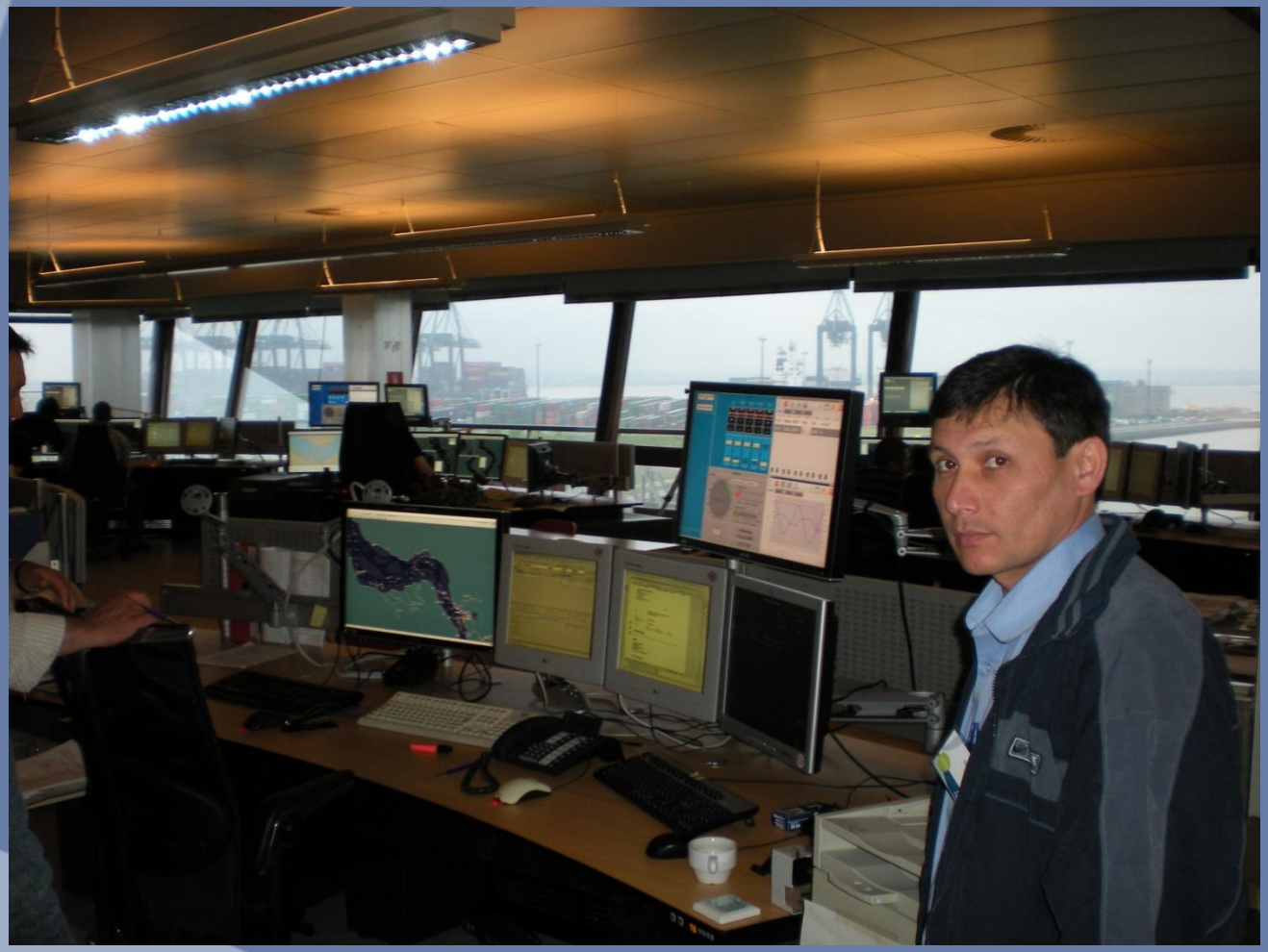
Visit to the control center of the Antwerp port: traffic control.



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Cultural visit to Brussels: the Atomium.

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Visit of the ground services of Brussels national airport.

Visit the Euro space center.

Future of the project

- Pilot courses for home students in TSTU (Tashkent State Technical University) with the help of teaching staff of De Nayer.
- Dissemination of the CAD-courses in other departments in TSTU.
- Development of a plan for dissemination of the CAD-courses in other technical universities in Uzbekistan.
- Development of a plan for future collaboration with TSTU and De Nayer and TU Berlin in the study field of CAE for use in mechanical engineering.