

THE NEWSLETTER OF THE USAEE THEMATIC NETWORK

USAEE - University Studies of Agricultural Engineering in Europe; a Thematic Network

Defining the problem: rationale of and background to the project

University studies in Agricultural Engineering

Agricultural engineering covers all aspects of agricultural production (i.e. food and fibre products, processing, storage and distribution). Graduates develop new technologies for agricultural systems, materials and products that improve the quality and affordability of agricultural products. Input from many other disciplines is integrated to develop designs and test new applications. Specific problems addressed by traditional agricultural engineers include designing systems for energy efficient field operations, electronic controls for monitoring of agricultural products, design of structures and environmental systems, and development of effective processing technologies.

Current situation - curricula

In the U.S.A., Canada and some European countries, the agricultural engineering curricula are based on core courses in engineering, mathematics and basic sciences. Engineering design courses are drawn from the Department of Agricultural Engineering and other engineering departments and focus on the application of engineering principles to problems related to food and fibre production, processing and storage. On the other hand, in most of the European countries, University studies in Agricultural Engineering are very much diversified and in many cases, these studies represent a specialisation within a general degree in Agriculture rather than a pure degree in Agricultural Engineering. In those cases, the Engineering background is very weak and the graduates are Agronomists rather than Agricultural Engineers. The contemporary situation in Europe is very much confusing, as it has already been reported in a relevant survey made by the *International Commission of Agricultural Engineering*, in 1994, on the university structure and curricula of Agricultural Engineering.

Preparatory work The need for a European thematic network on the Agricultural Engineering and related University programs of study in Europe stems from the contemporary chaotic situation of the relevant programs of study as this is clearly described in the relevant report of AFANET, WP3. So the idea is to create a new study which could be agreed on as a template for future local developments and used as a benchmark for agricultural engineers. The proposed network project has the endorsement and the support of the Society and the participants of the virtual network to proceed

Basic aims

a) The basic goal in this network is the development of **basic core curricula in Agricultural Engineering recognised at a European level**. The establishment of a benchmark serves the purpose of determining a set of criteria/requirements against which any curriculum can be tested and decided whether or not it meets the criteria for its admission as a particular programme of Agricultural Engineering studies in Europe.

The benchmarks for basic European core curricula in Agricultural Engineering represent an innovative effort defining and building a European dimension in the corresponding studies and they are based on the following requirements:

- It must meet the FEANI criteria for being an Engineering program of studies (i.e.: a European basis for core curricula in engineering).
- It must meet the EurAgEng demands for 'Agricultural Science' core curricula requirements in Agricultural Engineering in synergy with AFANET (i.e. a European basis for core curricula in agricultural sciences).

Four different benchmarks will be developed corresponding to the two distinct types of engineering curricula offered (refer to Agricultural Engineering AFANET report), one more scientifically oriented and another one more application-oriented. The corresponding requirements for a Master's or other post-graduate degree following these two distinct curricula will make a total of four different benchmarks for the four distinct programs of studies.

b) A second major innovation of this thematic network is the establishment of an accreditation committee (under the EurAgEng) for future accreditation of Agricultural Engineering studies. In parallel, a database of courses will be established, or groups of courses, their content and ECTS-value, in order to facilitate evaluation in connection with accreditation, and to provide a better basis for student mobility within Europe.

Objectives

The main objectives of the proposed thematic network project are:

- to exploit the results of the Working Package 3, 'Agricultural Engineering' of AFANET in order to define and develop a European dimension within the academic discipline of Agricultural Engineering through the cooperation among the European university faculties or departments of the virtual network already established through the work of WP 3, the European Society of Agricultural Engineers and other relevant bodies and associations (e.g. FEANI, industries etc).
- to define the core curricula (i.e. minimum requirements at various levels) to be used as benchmarks for Agricultural Engineering studies in Europe. The framework for defining such core curricula, at several levels, has been developed already by WP 3 of AFANET. This framework will therefore be employed and implemented through the establishment of the proposed thematic network.
- to define common accreditation strategies and procedures and establish the bodies/committees to carry out the accreditation of the departments which are to meet the core curricula requirements.

Scope and context of the project

It is a reasonable consequence of the current trends in higher education that each country within the European Union feels the need to modernise the University programs in general, and so, also in Agricultural Engineering so that they meet:

- a. the general economic conditions
- b. the technological and scientific developments
- c. the need to structure competitive and realistic programs of study

Even more, the on-going dramatic structural changes in the European higher education system, have offered a boost to the classical trends. As a result, the currently completed work of AFANET, WP3 'Agricultural Engineering' has placed a significant emphasis on these latest developments.

USAAE - List of partners (2002-2003)

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WORK PLAN FOR NETWORKING ACTIVITIES DURING THE FIRST YEAR 2002-2003

Networking activities <i>Duration 1-36 months</i>	<i>General outputs of network:</i>	<i>Activities of network:</i>	<i>Time schedule of networking activities:</i>
1st Workshop of network	<i>Deliverables:</i> <ul style="list-style-type: none"> • <i>Proceedings on 'Current structure of European University Studies in Agricultural Engineering'</i> 	1st Workshop on: 'Current structure of European University Studies in Agricultural Engineering': (Madrid-Spain) <ul style="list-style-type: none"> – Presentations on the major topic – Special sessions devoted to various categories of structures of studies – Only partners with presentations will be reimbursed for travel and subsistence 	One-day meeting -in Madrid, Spain: 28 (late afternoon) and 29 March 2003
2nd Workshop of network	<i>Deliverables:</i> <ul style="list-style-type: none"> • <i>Proceedings on 'Research Activities in European University Institutes of Agricultural Engineering'</i> 	2nd Workshop on: 'Research Activities in European University Institutes of Agricultural Engineering: (Palermo-Italy) <ul style="list-style-type: none"> – Presentations on the major topic – Presentations on the major topic – Special sessions devoted to various categories of structures of studies – . Only partners with presentations will be reimbursed for travel and subsistence 	One-day meeting -in Italy: 26 (late afternoon) and 27 September 2003

OTHER ACTIVITIES

STEERING COMMITTEE MEETINGS

Type of Meeting	Tentative Date/Venue
1 st meeting	29, 30 November/ Athens, Greece
2 nd meeting	30 March 2003/ Madrid, Spain
3 rd meeting	28 September 2003/ Palermo, Italy

WORKING GROUPS MEETINGS

Type of Meeting	Tentative Date/Venue
1 st meeting of WG1, WG2	31/01 and 1/02/2003/ Athens, Greece
2 nd meeting of WG1, WG2, ECTS	27 (afternoon), 28, 30 March 2003 / Madrid, Spain
3 rd meeting of WG1, WG2, ECTS	25 (afternoon), 26, 28 September 2003/ Palermo, Italy

Please feel free to make some comments in the text box below

Thank you very much for your co-operation.