CHEMLAB II is a European collaborative project aiming to educate young working people, without a University degree, in Analytical technologies and to improve their skills in Chemical Analysis. There has been a reduction in the number of experienced and qualified members of technical staff in analytical laboratories, due to:  
- rapidly accelerating technological progress and increasing demands for knowledge  
- the insufficient level of training for graduates of basic education.  
Industries employ overqualified stuff, which are capable of handling more efficient and less costly chemical analytical instruments in relation to technical staff.  
The CHEMLAB II – Transfer of Innovation project aims at providing and fostering a "European Quality Standard in Chemical Vocational Education" for young apprentices in non-academic chemical training on-the-job.

### Project description

**EC-VET program**

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- **Subject Field**
  - NF 1: Combining Materials
  - NF 2: Separation of Chemical Mixtures
  - NF 3: Investigations of Chemical Structures and Properties
  - NF 4: Photometric and Chromatographic Analysis
  - NF 5: Conducting Preparative Studies
  - NF 6: Synthesis of Several Chemical Groups

- **Subject Field**
  - SF 1: Volumetric and Cenometric Analyses
  - SF 2: Conducting Chromatographic Analyses
  - SF 3: Conducting Spectrometric Analyses
  - SF 4: Structure Determination of Organic and Inorganic Compounds
  - SF 5: Applications of Spectroscopic Techniques
  - SF 6: Process Control and Quality Management
  - SF 7: Identification and Use of Microorganisms
  - SF 8: Electrochemical Investigation of Substances

### Certification – Quality Assurance

- **Intermediate exams**
- **Questionnaires**
- **External evaluators**
- **German IHK (Chamber of Commerce)**
- **Final Greek Exams using the German prototype**
- **Education of Trainers with meetings**
- **European Certification of Attendance**
- **Assuring:**
  - Relations in workplace
  - Suggestions and comments
  - Level of infrastructure
  - Use of new learned techniques in workspace

### Experience in Greece

**PROBLEMS ENCOUNTERED**

- Slightly heterogeneous background knowledge (different company experience)
- Reduced participation of in-house training
- Increased working hours → reduced capacity for exercise/homework
- Urgent need for Certification Clearance
- Cutback of trainee hours in working place

**FEEDBACK AND SUGGESTIONS**

- Reduce curriculum to specifics
- Certification and connection to industry necessary
- More lab applications in the curriculum
- Continuation with state funding in professional schools for a complete 2-year training.
- E-learning platform up and running

### Partners

- Teaching Institutes
- Certification Institutes
- Legal Representatives
- Companies
  - Germany
  - Greece
  - Turkey
  - Poland
  - Georgia

### Training curriculum

**EU Chemlab Concept**

**Practical Education**

- Home company
- CHEMLAB Laboratory (on demonstration)
- CHEMLAB University or company

**Theoretical Education**

- Basic module
- Special and intensive modules

**Learning for Chemical Assistant**

Condition for attendance: over 18 years and higher graduation