Quality Assurance and the CDIO framework

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The National Swedish Quality Assurance System:

• The responsibility for quality assurance is shared between the Higher Education Institutions (HEIs) and the Swedish Higher Education Authority (UKÄ).
• The main part of the quality assurance efforts is completed by the HEIs.
• The responsibility of UKÄ is to assess that the HEIs have **internal, systematic** quality assurance processes that are sharp enough to really ensure that education at all levels maintains a high quality.
• The LiU model for quality assurance is evaluated by the Swedish Higher Education Authority (UKÄ) right now.
Process and Time schedule

Process for institutional reviews of HEI´s quality assurance processes

LiU: Introductory meeting Sep 4 2020

Other data: e.g. the result of UKÅ's HEI supervision, programme evaluations and national statistics

LiU: Deadline Nov 27 2020

LiU: Feb 18

LiU: Apr 27-29*

LiU: End of Aug/beginning of Sep

LiU: End of Sep/beginning of Oct

Decision and report

Approved quality assurance processes

Approved quality assurance processes with reservations (follow up no later than two years after decision)

Quality assurance processes under review (timeline for follow-up is decided in dialogue with UKÅ)

*LiU: Audit trails:
  - Syllabus process
  - Faculty Skills development
  - PhD study situation
  - Evaluation of PhD courses

The LiU self-evaluation can be found at: https://insidan.liu.se/kvalitetsarbete
The Model for Quality Assurance of Education at LiU:

- The LiU model is consistent throughout the university
- Focus on quality assurance as well as quality enhancement
- The faculties have a certain degree of freedom when it comes to how the quality promotion is organised

Read more: https://liu.se/en/about-liu/quality
Part of the LiU Model – the Process for a Program:

Each program shall be evaluated in this internal process every sixth year:

- Quality Report
- Program Dialogue
- Evaluation matrix
- Action Plan
- Faculty Analysis

Program Boards
Program Boards + Faculty Management
Faculty Management
Program Boards
Dean

In the presence of Student Representatives

- The faculty analyses are presented and discussed in the LiU Board for Quality in Education
- Quality reports, action plans and the faculty analysis are published on the LiU web
- The faculty analyses are submitted to the Vice Chancellor annually and are taken into account in the strategic planning

All forms of education will be part of this system; courses and programmes at all levels
The LiU template for Quality Assurance of a program

Aspects:
a) The design, execution and examination of the education ensure that the students have achieved all learning outcomes for the degree in question, when the degree is awarded.
b) The design and execution of the education promote the students’ learning and encourage students to play an active role in the learning processes.
c) There is a clear coupling between teaching and research in the educational environment.
d) The number of teachers and their collective expertise are sufficient and are proportional to the contents and execution of the education.
e) The education is applicable, and prepares students for a career characterised by change.
f) The education strives to ensure that the students participate actively in improving the education.
g) A perspective of gender equality is integrated in the design and execution of the education.
h) A perspective of sustainability is integrated in the design and execution of the education.
i) Follow-ups of some key performance indicators
A LiTH template has been developed from the LiU template

The Quality Reports for programs within the Faculty of Science and Engineering consist of two parts;

- Part 1: A program-specific part

- Part 2: Common appendices that present how the CDIO framework is used, the organization and working practices of the Program Boards etc.
Until now and forward

- We have now four years of experience in this system and a little more than half of our programmes have been assessed
- Continuous work to implement the aspects in the action plans are ongoing
- All quality reports and action plans can be found at the LiU website (in Swedish)
LiTH: Quality assurance 2021

- MED: Civileingenjörprogrammet Medicinsk teknik
- BME: Masterprogrammet Biomedical engineering
- U: Civileingenjörprogrammet Mjukvaruteknik
- GDK: Kandidatprogrammet Grafisk design och kommunikation
- DPU: Civileingenjörprogrammet Design och produktutveckling
- Basåret
- Asienåret
CDIO as tools

The CDIO-framework contributes to:
1. the fulfillment of the overall program goals, including desired knowledge and skills
   CDIO Syllabus
2. designing and running an engineering program that enables the students to reach the desired knowledge and skills
   CDIO Standards

The CDIO Syllabus has been slightly adjusted to meet criterias for higher education in a Swedish context = LiTH Syllabus.

Some observations:
+ Those tools are very valuable in the Quality System
+ Together, we can make those tools even better
  - please help us!