



The Flemish Research Discipline Standard Review & update procedure.



UHASSELT

KNOWLEDGE IN ACTION

Neyens E., Eldin A., Hoang S., Poelmans H.,
Araboeli T., EuroCris Nijmegen 2022.

ecoom

Agenda

- Flemish Research Discipline Standard
 - Background & structure
 - Use purposes
 - Need for an update
 - Review & update procedure
 - Main outcomes
 - Limitations of the current approach
 - Towards a new framework

Background

- Flemish Research Discipline Standard
 - Classification scheme to classify researchers & research output by research discipline
 - Developed by Vancauwenbergh & Poelmans (2019)
 - At the request of the Flemish government: Departement of Economics, Science & Innovation
 - To streamline administrative research reporting in the Flemish research landscape
- Peeters et al. 2011: Report on the streamlining of research reporting
 - Merge multitude of research discipline classifications into one uniform standard

ECOOM-UHasselt: 1 uniform discipline code list

- A single Flemish classification for research disciplines that:
 - covers all research in Flanders
 - provides a semantic definition for all disciplines
 - convertible to the most common (inter)national classification systems by means of concordance tables
- Classification governance & quality control
- Implemented by all Flemish stakeholders
 - knowledge institutions, funding agencies, Flemish interuniversity council, Flemish government,...

Structure of the FRDS

- 4 hierarchical levels
 - Level 1: 7 codes
 - Level 2: 42 codes
 - Level 3: 382 codes
 - Level 4: 2866 codes
- } Research reporting
- } Expert knowledge

Sector (Level 1)	Disciplinary Field L1	Disciplinary Subfield L2	Disciplinary Subfield L3	Definitions
Interdisciplinary topics				
Architecture				
02 Engineering and technology	0201 Civil and building engineering	020101 Architectural engineering	02010100	Architectural engineering is the discipline concerned with the design, development and planning of buildings and their environment
02 Engineering and technology	0201 Civil and building engineering	020101 Architectural engineering	02010101 Structural design	Structural design is the discipline concerned with the design, development and planning of buildings and their environment
02 Engineering and technology	0201 Civil and building engineering	020101 Architectural engineering	02010102 Structural optimisation	Structural optimisation is the discipline covering the design, development and planning of buildings and their environment
02 Engineering and technology	0201 Civil and building engineering	020101 Architectural engineering	02010103 Sustainable building	Sustainable building is the research field referring to the design, development and planning of buildings and their environment
02 Engineering and technology	0201 Civil and building engineering	020101 Architectural engineering	02010199 Architectural engineering not elsewhere classified	All subdisciplines of 'architectural engineering' not elsewhere classified
02 Engineering and technology	0201 Civil and building engineering	020111 Urban and regional design, development and planning	02011100	Urban and regional design, development and planning is the research field referring to the design, development and planning of buildings and their environment
02 Engineering and technology	0201 Civil and building engineering	020111 Urban and regional design, development and planning	02011101 Environmental and sustainable planning	Environmental and sustainable planning is the research field referring to the design, development and planning of buildings and their environment
02 Engineering and technology	0201 Civil and building engineering	020111 Urban and regional design, development and planning	02011102 Housing markets, development, management	Housing markets, development, management is the research field referring to the design, development and planning of buildings and their environment
02 Engineering and technology	0201 Civil and building engineering	020111 Urban and regional design, development and planning	02011103 Smart cities	Smart cities is the research field studying the urban and regional design, development and planning of buildings and their environment
02 Engineering and technology	0201 Civil and building engineering	020111 Urban and regional design, development and planning	02011104 Urban and regional design	Urban and regional design is the research field referring to the design, development and planning of buildings and their environment
02 Engineering and technology	0201 Civil and building engineering	020111 Urban and regional design, development and planning	02011105 Urban and regional development	Urban and regional development is the research field referring to the design, development and planning of buildings and their environment
02 Engineering and technology	0201 Civil and building engineering	020111 Urban and regional design, development and planning	02011106 Urban and regional planning policy, instruments and legislation	Urban and regional planning policy, instruments and legislation is the research field referring to the design, development and planning of buildings and their environment
02 Engineering and technology	0201 Civil and building engineering	020111 Urban and regional design, development and planning	02011107 Urbanism and regional planning	Urbanism and regional planning is the research field referring to the design, development and planning of buildings and their environment
02 Engineering and technology	0201 Civil and building engineering	020111 Urban and regional design, development and planning	02011199 Urban and regional design, development and planning not elsewhere classified	All subdisciplines of 'urban and regional design, development and planning' not elsewhere classified
06 Humanities and the arts	0604 Arts	060403 Art studies and sciences	06040300	Art studies and sciences is the discipline encompassing the design, development and planning of buildings and their environment
06 Humanities and the arts	0604 Arts	060403 Art studies and sciences	06040301 Architectural history and theory	Architectural history and theory is the research field referring to the design, development and planning of buildings and their environment
06 Humanities and the arts	0604 Arts	060403 Art studies and sciences	06040304 Architectural design history and theory	Architectural design history and theory is the research field referring to the design, development and planning of buildings and their environment
06 Humanities and the arts	0604 Arts	060403 Art studies and sciences	06040311 Interior architecture history and theory	Interior architecture history and theory is the research field referring to the design, development and planning of buildings and their environment
06 Humanities and the arts	0604 Arts	060403 Art studies and sciences	06040312 Landscape architecture history and theory	Landscape architecture history and theory is the research field referring to the design, development and planning of buildings and their environment
06 Humanities and the arts	0604 Arts	060403 Art studies and sciences	06040399 Art studies and sciences not elsewhere classified	All subdisciplines of 'art studies and sciences' not elsewhere classified
06 Humanities and the arts	0604 Arts	060401 Architectural design	06040100	Architectural design studies the art and science of the design, development and planning of buildings and their environment
06 Humanities and the arts	0604 Arts	060401 Architectural design	06040101 Design innovation	Design innovation is the research field studying the design, development and planning of buildings and their environment
06 Humanities and the arts	0604 Arts	060401 Architectural design	06040102 Design management	Design management is the research field studying the design, development and planning of buildings and their environment
06 Humanities and the arts	0604 Arts	060401 Architectural design	06040103 Design practice	Design practice is the research field that studies the design, development and planning of buildings and their environment
06 Humanities and the arts	0604 Arts	060401 Architectural design	06040104 Design research	Design research is the research field studying the design, development and planning of buildings and their environment
06 Humanities and the arts	0604 Arts	060401 Architectural design	06040105 Digital and interaction design	Digital and interaction design is the research field studying the design, development and planning of buildings and their environment
06 Humanities and the arts	0604 Arts	060401 Architectural design	06040106 Inclusive design	Inclusive design is the research field studying the design, development and planning of buildings and their environment
06 Humanities and the arts	0604 Arts	060401 Architectural design	06040107 Sustainable design	Sustainable design is the research field studying the design, development and planning of buildings and their environment
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Structure of the FRDS

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- A definition for each discipline



Research reporting

Expert knowledge

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06 Humanities and the arts	0604 Arts	060401 Architectural design	06040102 Design management	Design management is the research field studying the management of design
06 Humanities and the arts	0604 Arts	060401 Architectural design	06040103 Design practice	Design practice is the research field that studies the practice of design
06 Humanities and the arts	0604 Arts	060401 Architectural design	06040104 Design research	Design research is the research field studying the process of design
06 Humanities and the arts	0604 Arts	060401 Architectural design	06040105 Digital and interaction design	Digital and interaction design is the research field studying the design of digital and interactive environments
06 Humanities and the arts	0604 Arts	060401 Architectural design	06040106 Inclusive design	Inclusive design is the research field studying the design of products and environments that are usable by all people, to the greatest extent possible
06 Humanities and the arts	0604 Arts	060401 Architectural design	06040107 Sustainable design	Sustainable design is the research field studying ways to design products and environments that are sustainable

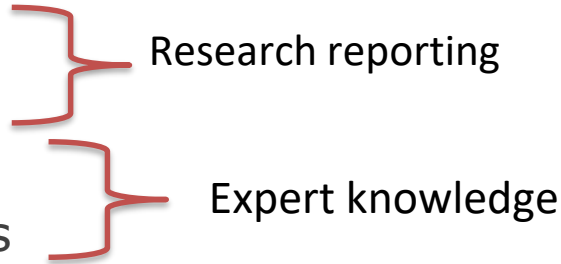
Structure of the FRDS

- 4 hierarchical levels
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 - Level 2: 42 codes
 - Level 3: 382 codes
 - Level 4: 2866 codes
- A definition for each discipline
- Monitor new disciplines: “Not elsewhere classified” category**

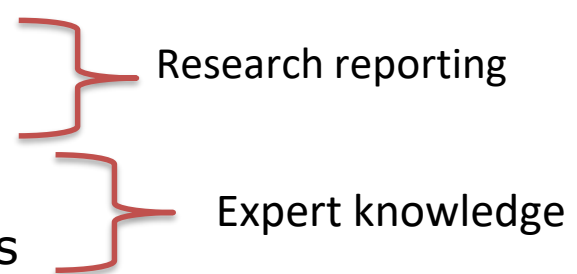
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Engineering and technology	Civil and building engineering	Architectural engineering	Structural design	Structural design is the discipline concerned with the metho
Engineering and technology	Civil and building engineering	Architectural engineering	Structural optimisation	Structural optimisation is the discipline covering studies o
Engineering and technology	Civil and building engineering	Architectural engineering	Sustainable building	Sustainable building is the research field referring to both a
Engineering and technology	Civil and building engineering	Architectural engineering	Architectural engineering not elsewhere classified	All subdisciplines of 'architectural engineering' that are no
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Humanities and the arts	Arts	Architectural design	Digital and interaction design	Digital and interaction design is the research field studying
Humanities and the arts	Arts	Architectural design	Inclusive design	Inclusive design is the research field studying the architect
Humanities and the arts	Arts	Architectural design	Sustainable design	Sustainable design is the research field studying ways to re

Structure

- 4 hierarchical levels
 - Level 1: 7 codes
 - Level 2: 42 codes
 - Level 3: 382 codes
 - Level 4: 2866 codes
- A definition for each discipline
- Monitor new disciplines: “Not elsewhere classified” category
- **3 interdisciplinary topics**
 - Architecture, mobility, and nanotechnology
 - visibility



Structure

- 4 hierarchical levels
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Research reporting

Expert knowledge
- A definition for each discipline
- Monitor new disciplines: Not elsewhere classified category
- 3 interdisciplinary topics
 - Architecture, mobility, and nanotechnology
 - visibility
- **Translation tables available**
 - 1 FRDS code => N codes
 - N codes => 1 FRDS code

Use of the Flemish Research Discipline Standard

- FRIS
 - Visualization portal (level 4)
 - Researchers
 - Organizations
 - Projects
 - Infrastructure
 - Datasets
 - Financial reporting (level 2): spending by funding stream and discipline
- Annual reporting universities
 - Spending by cash flow and discipline (level 2)

Use of the Flemish Research Discipline Standard

- FWO
 - Indication of project disciplines (level 4)
 - Indication of researcher expertise (level 4)
- VLIR personnel statistics
 - Reporting personnel (level 2)
- Human Resources in Research Flanders (HRRF)
 - Monitoring research careers (level 4)
- Ad hoc: designation of research expertise in Flanders
 - Sciensano

Why do we need an update?

- Evaluation of implementation
 - After 4 years of use: Where are the gaps?
- Ensure continuity of a single classification in Flanders
 - Synergy with gaps stakeholders
- Research community dynamics
- International evolutions
 - Update ANZSRC in 2020
 - FORD

Review & update procedure: 4 phases

Phase 1: Recording Gaps

- Recording of gaps: disciplines & definitions
- Reporting via ecoom@uhasselt.be
- Use of the "not elsewhere classified" categories
- Analysis of international classifications: ANZSRC, FORD/FOS

Phase 2: Gap Analysis

- Structural/technical gaps: stakeholder advice
- Content level gaps: Levels 1&2; Levels 3&4:
targeted expert consultation

Review & update procedure: 4 phases

Phase 3: Evaluation

- Present recommendations stakeholders/experts to Research discipline steering committee
- Steering committee decides what changes to implement

Phase 4: Implementation

- Process within each institution
- Guidance by ECOOM-Hasselt
- Technical (if desired)
- Formulate approach to transition
- Draw up translation tables

Review & update process: outcome

- Level 1: 7 master codes: no changes at this level
- Level 2: 42 codes => 43
 - Split 'Sociology and anthropology' into 'Sociology' & 'Anthropology'
 - 1 discipline renamed

Review & update process: outcome

- Level 3: 382 codes => 385
 - 1 discipline split: 'Statistics & numerical methods' into 'Statistics' & 'Numerical methods'
 - 2 disciplines relocated (Paramedical sciences to health sciences)
 - 18 codes added
 - 15 codes deactivated
 - 1 code renamed
- Level 4: 2866 codes => 2924 codes
 - 167 codes added
 - 109 codes deactivated
 - 6 codes renamed
 - 16 definitions adapted

Limitations of the current approach

- Targeted expert consultation
 - Labour intensive & time consuming
 - Experts are hard to reach
 - Voluntary basis
 - Lack of sufficient argumentation
 - Experts who don 't agree: seek consensus
 - New questions & proposals



Towards a new automated update process

- Automate gap collection
 - platform with interface where researchers can report a gap & provide sufficient argumentation/info + references
 - Not elsewhere classified category: automated notification
 - Free text field: describe missing discipline
- Eligibility phase: set of standard criteria
 - Level of adjustment
 - Number of times the gap was reported
 - Number + quality of the arguments + evidence provided
- Automate process of finding & contacting experts
 - Domain experts receive notifications + feedback requested
 - Public voting system
- AI algorithm to track new disciplines

ECOOM@uhasselt.be

Thank you.

Evvy Neyens
Evvy.neyens@UHasselt.be

