

# SWOT analysis of the Curricula (Workpackage 1):

## INTRODUCTION

From the Regional Priorities list - for the Eastern Neighboring Area (ENPI East) - the ENVIRONMENT was the selected priority for the RETHINK project; however, the underlying theme of the RETHINK project is new, because it is ENVIRONMENT and SUSTAINABILITY are intertwined with BUSINESS and EDUCATION.

The RETHINK project encompasses these two themes, and also integrates the concept of the knowledge triangle “education/research/innovation” from an environmentally sustainable perspective. The project RETHINK intends to rethink the curricula of the partner HEIs -in the priority area of ENVIRONMENT- through the development of innovative Joint (Masters and PhD) Degrees in the fields of

- 1 - Architecture, Urban planning and
- 2-Climate Engineering/Environmental Sciences

The RETHINK project intends to overcome some of the needs that were listed by the RETHINK's Eastern Partner Countries:

- The need to understand the impact of Green House Gas emissions’ on the Biosphere;
- The need to develop curricula on sustainability based on a transdisciplinary framework.
- The need to know and to apply ecologic solutions to environmental problems.

The expected results will be the:

- Development of a new Joint (Masters and PhD) Degrees in the fields of
  - 1- Architecture/Urban planning and
  - 2- 2- Climate engineering/Environmental Sciences.
- Establishment of a CO2 accounting approach as an indicator of sustainability.
- Knowledge exchange.
- Teacher training.
- Development of teaching materials.
- Promotion of business start-ups.
- Development of mutually agreed standards of quality of education.
- Dissemination of outcomes (sharing of teaching materials and results).

Please fill out SWOT analysis of the Curricula offered by your university (Workpackage 1): critical analysis of the existing Curricula in your university in order to achieve objectives listed above:

Analysis		Internal origin		External origin	
		STRENGTHS Helpful to achieving the objective	WEAKNESSES Harmful to achieve the objective	OPPORTUNITIES Helpful to achieving the objective	THREATS Harmful to achieve the objective
Course content	Master degree	Master in Urbanism and Master in Architecture (apart from other masters offered) are well balanced regarding integration of sustainability related focuses and courses, as this is addressed for within the Tido annotation <sup>1</sup> and supported by its referents.	Tido annotation concerns an interfaculty collaboration with many courses (and responsables). Dutch ministerial accreditation for new masters will take at least 2 years (with no guaranteed positive outcome due to today's official aim to reduce the amount of masters offered.	We are in the middle of a preparation of a new interdisciplinary Master within the context of AMS <sup>2</sup> (combined TUD, WUR and MIT). Also there is already running an inter-university Master on Industrial Ecology (TU Delft and Leiden University).	To attend to Master courses you need to meet the admission requirements. All students should have completed their Bachelor programme, Bridging programme or Screening process (visible in Osiris) for admission to the Master programme. For admission to the Master 3, there are no additional admission requirements.
	PhD degree	Architecture and the Built Environment (ABE) is being coordinated by the Delft Graduate School <sup>3</sup> .	PhD degree is subject to strong conditions from both DUT <sup>4</sup> as well as VNSU <sup>5</sup> and Ministry of Education in the Netherlands	The concept of the Graduate School is now offered/ organised TUD wide. Also PhDs will become part of the AMS institute.	AMS applies so-called Ground Rules (7 in total) which imply involvement of certain partners and financing. This will make it hard to join.
Duration, months	Master degree	24 (full time)	n.a.	Only for Industrial Ecology <sup>6</sup> : 24	n.a.
	PhD degree	48 (full time)	n.a.	n.a.	n.a.
Number of credits, ECTS	Master degree	120ects <sup>7</sup> (4 times total of 30 ects <sup>8</sup> ) during (2 years)	Max. amount of 40 ects per period of enrollment.	Only for Industrial Ecology : 120ects <sup>9</sup> (2 times total of 60 ects)	Course and examination rules.
	PhD degree	n.a.	n.a.	n.a.	n.a.

<sup>1</sup> The graduation annotation 'Technology in Sustainable Development' was launched in September 2000. The annotation is open to all TU Delft master students that intend to integrate sustainable development into their graduation project. The graduation annotation covers both broader and deeper knowledge regarding Sustainable Development (SD) and technology. Sufficient depth is achieved by the demand that SD has to be a core issue in the graduation project. Within each department, a so-called 'SD referent' with specific expertise will assess the graduation project regarding the way SD has been tackled in the problem definition, the actual work and in the conclusions of the project. The broadening of knowledge is guaranteed through a number of elective courses in the field of SD and the Course 'Engineering for Sustainable Development'. Another goal of this course is to teach the students to apply a long term vision in determining their engineering priorities. Students can choose from a wide variety of Sustainability related courses at TU Delft or at other universities. The courses are divided in two clusters. Students need to choose at least 10 ECTS, with a minimum of 3 ECTS per cluster. Clusters offered are: A. Design, analysis and tools (32 courses); B. Organisation and society (21 courses).

<sup>2</sup> AMS is the acronym of the joint TUD (Delft), MIT (Boston) and WUR (Wageningen) initiative: Amsterdam Institute for Advanced Metropolitan Solutions –AMS. <http://www.ams-amsterdam.com>

<sup>3</sup> <http://www.graduateschool.abe.tudelft.nl>

<sup>4</sup> Delft University of Technology 'Board of Doctorates'; <http://www.tudelft.nl/en/about-tu-delft/organisation/board-for-doctorates/faculty/ud-os/page/6/>

<sup>5</sup> <http://www.vsnunl>

<sup>6</sup> <http://www.cml.leiden.edu/education/master/industrial/about-master-ie.html> ; course and examination regulations Industrial Ecology (LU & TUD): [http://fwncwww14.wks.gorlaeus.net/images/uploads/MSc\\_IE\\_OER\\_2014-2015\\_final.pdf](http://fwncwww14.wks.gorlaeus.net/images/uploads/MSc_IE_OER_2014-2015_final.pdf)

<sup>7</sup> A full year of study is 60 EC study time, according to the European Credits Transfer System (ECTS). 1 EC is 28 hours of study.

<sup>8</sup> MSc 1 (2x studio, 10 ects each; 3 courses, 4,2 and 4 ects); MSc2 (spatial strategies, 10 ects, research and design methodology, 5 ects and Electives, 15 ects); MSc3 (graduation studio, 20 ects, grad.orientation, theory and methodology, resp. 2, 4 and 4 ects); MSc4 (graduation studio, 30 ects).

<sup>9</sup> A full year of study is 60 EC study time, according to the European Credits Transfer System (ECTS). 1 EC is 28 hours of study.

Please fill out this table in order to analyze the procedure that RETHINK Project needs to follow for the accreditation of a new Joint Degrees

Accreditation of Joint Degree on the national level	
Name of institution responsible for the accreditation of a Joint Degree	Nederlands – Vlaamse Accreditatie Organisatie (NVAO); URL: <a href="http://www.nvao.net/internationalisering">http://www.nvao.net/internationalisering</a>
Requested documents for the accreditation of a Joint Degree	For a new (joint) degree program a new 'Test New Master' must be prepared. This is very similar to an extensive self-evaluation.
Procedure for the accreditation of a Joint Degree	<p>Before you can start thus you first need permission from the Executive Board of DUT (They are really reluctant to agree upon new Master courses). If the Master is (indirectly) paid for by the Dutch government (so if any use of fixed educational staff is involved &gt; which most probably is the case here) macro-efficiency test should also be performed. The Ministry decides on the basis of the documents submitted. This check and test also applies for the content of the new Master (and involved partners), content wise.</p> <p>The secretary of the proposed Master takes the initiative in this.</p>
Expected duration for the accreditation process to be completed	The whole process takes at least two years. In a joint degree usually there is also some haggling over the division of responsibilities, the division of subjects and the finances.