



# Barents Joint Master's Degree Program in Environmental Engineering



**Department of Process and Environmental Engineering  
&  
Thule Institute**

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## Barents Master's degree program on Environmental Engineering

- Main responsibility: Process and Environmental Engineering Department at the University of Oulu
- Partners from the Barents region: Archangelsk, Murmansk, Narvik, and Luleå
- Curriculum development and course planning in progress, student recruitment in spring 2009, teaching is planned to start in fall 2009
- Themes closely connected to the UArctic thematic networks in Energy in Time, and in Arctic Engineering and Science

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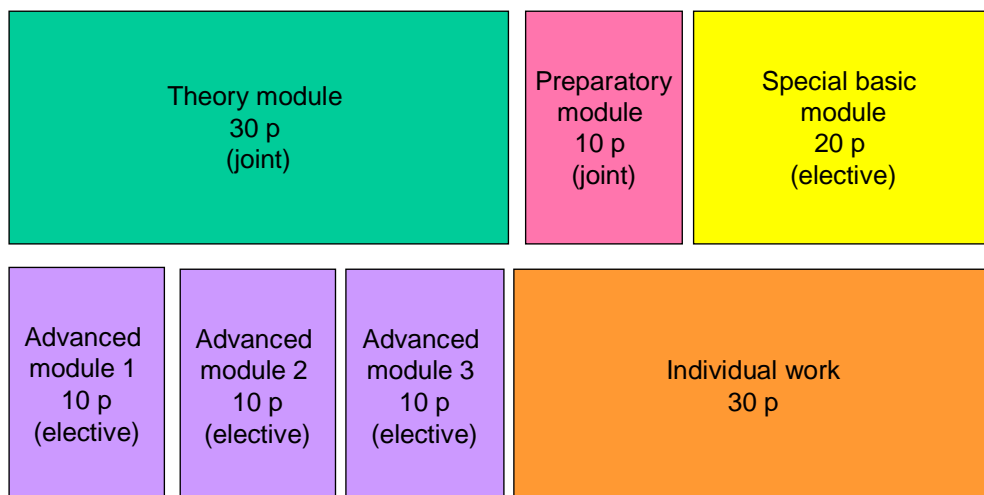


## Orientations in the Barents Master's Degree Program in Environmental Engineering

- Main aim is to provide the students knowledge to manage **environmental issues within industry and communities** by application of proper methods, tools and technologies
- Both “hard values”, such as technologies, processes, and management skills, and the “**soft values**” are included in curriculum, to raise awareness and improve attitudes
- **Orientations in the Program** (as of fall 2007)
  - *Clean production engineering*
  - *Water and environmental engineering*
  - *Sustainable energy*



## Structure of the curriculum

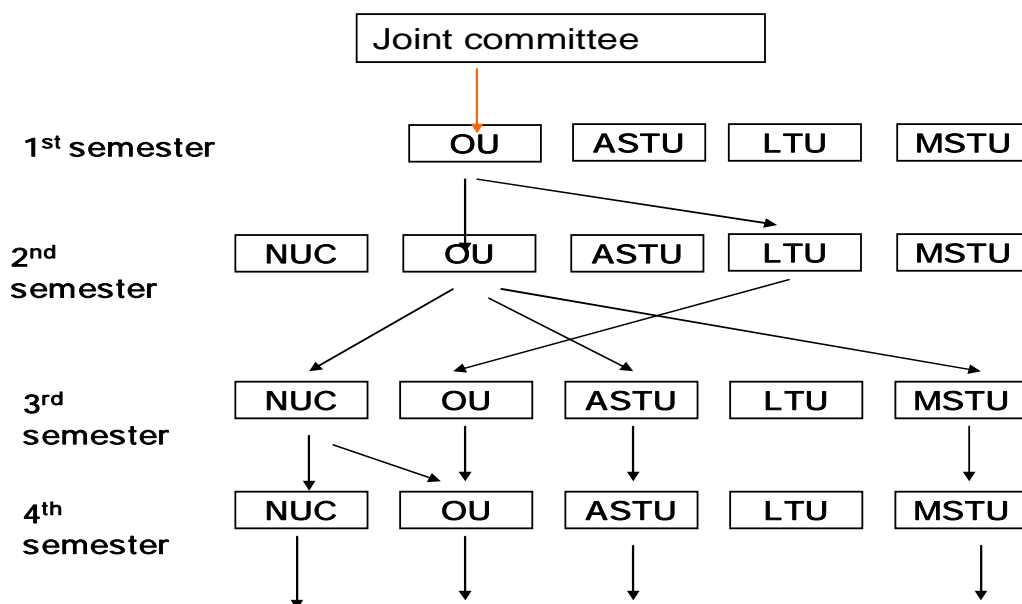


# Structure of the curriculum - example

Orientation *Water and environmental engineering* (University of Oulu)

1 <sup>st</sup> semester: Autumn					2 <sup>nd</sup> semester: Spring				
<b>Theory module</b> (30 op) <ul style="list-style-type: none"> <li>• Sustainable development (Thule?)</li> <li>• Resource economics (TUTA tai TaTTk)</li> <li>• 'Global change' (Thule seminar?)</li> <li>• Environmental legislation(LY)</li> <li>• <b>Industrial ecology (TYT &amp; LDT)</b></li> <li>• Field measurements (VES)</li> <li>• GIS (VES)</li> <li>• <b>Supplementary course (VES)</b></li> </ul>					<b>Preparatory module</b> (10 op) <ul style="list-style-type: none"> <li>• Environmental issues in Barents region (Thule)</li> <li>• Administration, organization and education in working life? (Työtiede)</li> </ul>	<b>Special basic module</b> (20 op) <ul style="list-style-type: none"> <li>• Env management (TUTA)</li> <li>• (Water supply networks)<sup>(2)</sup></li> <li>• Adv separation proc (LDT)</li> <li>• <b>Chem water processes (VES)</b></li> <li>• Wat&amp;wastewat treatment (VES)</li> </ul>			
3 <sup>rd</sup> semester: Autumn					4 <sup>th</sup> semester: Spring				
<b>Mod3 'Waste'</b> (10op) <ul style="list-style-type: none"> <li>• Air poll control (TYT)</li> <li>• Solid wasman (VES)</li> </ul>	<b>Mod4 'Energy'</b> (10op) <ul style="list-style-type: none"> <li>• Prod&amp;use of energy</li> <li>• Sust. energy (NUC)<sup>(1)</sup></li> <li>• Supply chain man (TaTTk)</li> </ul>	<b>Mod5 'Water1'</b> <sup>(3)</sup> (10op) <ul style="list-style-type: none"> <li>• Ground-wat engng</li> <li>• Water res man<sup>(4)</sup></li> </ul>	<b>Mod6 'Water2'</b> <sup>(3)</sup> (10op) <ul style="list-style-type: none"> <li>• <b>Env. Impact Assessment</b></li> <li>• Recipient hydraulics &amp; surf. water qual. mod.</li> </ul>	<b>Mod7 'Geoenv'</b> (10op) <ul style="list-style-type: none"> <li>• Mod in geoenv engng</li> <li>• Adv. geo -env. engng</li> </ul>	<b>Diploma work project</b> (30 op)				

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Examples of the optional orientation dependent study paths of a student, who has entered the joint Master's program and has University of Oulu as the home university

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# Working groups

- Academic – decisive body
- Administrative – practical issues
- Educational – courses and curricula
- Local coordinators – contact persons



## Timetable for actions in 2008

Action	responsibility	January	February	March	April	May	June	July	August	September	October	November	December
<b>Curriculum</b>													
Each university for each orientation													
Student guide book													
NAME	Academic group												
<b>Funding</b>													
NordPlus/Nordic Russian	Administrative group												
NordPlus/Higher education	Coordinator												
Local funding	All												
Funding for students	Local funding; all												
EU funding	BCBU												
<b>Study and student issues</b>	Administrative group												
<b>Administrative</b>													
Finalizing background paper	Academic group												
complemet the comptool paper													
Agreement NUC-OU	Local coordinator												
Quality assurance guidelines													
Marketing plan													
Accredition													
Student selection procedure													



Thank you!

Спасибо!

Kiitos!