Proposal for a BSc thesis at the Department of Architecture and Civil Engineering

Type in the white fields below the gray headers. All fields are mandatory.
Upload your proposal in PingPong on BMTX01... VT 18 at latest week 40, in the document folder \ Project proposal from ...
Contact your teacher team leader or angela.sasic@chalmers.se if you do not have access to BMTX01.

**Titel / Title**
Designing Industrial Symbiosis in the Gothenburg Region

**Beskrivning / Description**
bakgrund och problembeskrivning, ca 150 - 500 ord / background and problem description, app. 150-500 words

Industrial Symbiosis (IS) can be defined as inter-firm resources sharing, which include physical exchanges of materials, energy, water, and by-products among diversified clusters of firms. Industrial symbiosis became worldwide known when self-organized structure of Kalundborg was uncovered. The objective of this work is for you to learn some of the core aspects of the circular economy concept, and in particular the use of Industrial Symbiosis to foster the reuse of Industrial wastes. The main objective is to enhance the emergence of industrial system relying on co-operation between the actors involved, in which exchanges of waste material and energy as resources occur, and minimize the input to the system of virgin materials and energy, as well as the output of wastes and emissions. You should propose and evaluate alterations to the existing industrial system in order to promote a more sustainable development, in particular in Gothenburg Region.

The Gothenburg Region is the most intense site for industrial production in Sweden and boasts a wide range of industries from different sectors such as trading, shipping, agriculture, forestry, construction and manufacturing industries. You will work with one representative industrial sector operating in the region, characterize its wastes (quantity and destination). You will also have to propose and evaluate solutions for the wastes, as well as propose other industrial sectors as reusers of the wastes as raw-materials for their own industrial processes.

To do that you should:

1. Identify the types and quantities of wastes produced by the industry.
2. Evaluate what is the destination of the waste produced, by for instance contacting directly some of the companies operating in the region.
3. Identify potential reuse/recovery solutions for the wastes.
4. Identify industries as well as companies operating in the region that may use the wastes as raw-materials.
5. Critically discuss the results obtained, for example missing data, made assumptions, suggestions for the method improvement etc.

**Målgrupp av studenter / Target group of students**
t ex Samhällsbyggnadsteknik, Maskinteknik, Kemiteknik med fysik... flera program hittar du [här](#)
e.g. Civil Engineering, Mechanical Engineering, Chemical Eng. with Eng. Physics, ... more programs [here](#)

Civil engineering, Industrial engineering and management, Chemical engineering

**Gruppstorlek / Group size**
minimum 3 studenter/students, maximum 5 studenter / students
3-5 students

**Litteraturförslag / Litterature proposal**


**Speciella förkunskapskrav / Special prerequisites**

*ex. profil (se mer i bilaga), kurs, verktyg: CAD, BIM, mjukvara / e.g. profile (see appendix), course, tools: CAD, BIM, software*

NONE

**Handledare / Supervisor**

Leonardo Rosado

**Examinator / Examiner**

Ej samma person som handledare / Cannot be the same person as supervisor

Kate Murphy

**Kan projektet dubbleras? / Can the project be doubled? JA / NEJ**

dvs. kan det vara flera grupper som jobbar med samma tema / e.g. can several groups work on the same subject

JA, choose either Industry sector 1610 Sawmilling and planing of wood or 2363 Manufacture of ready-mixed concrete

**Studenter med förtur till projektet / Students with priority to the project**

Gäller endast om studenter har föreslagit projektet / Applies only if the project has been suggested by the students

NEJ
Utdrag från Förslag på krav för kandidatexamen inom Samhällsbyggnadsteknik, civilingenjör 300 hp. Dokument kan laddas när på XX

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<thead>
<tr>
<th>Kandidatarbete inom</th>
<th>Rekommenderad(e) kurs(er)</th>
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<tbody>
<tr>
<td>Installationsteknik</td>
<td>Byggnadsfysik och byggnadsakustik, civ.ing. Installationsteknik, civ.ing.</td>
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<td>Konstruktionsteknik</td>
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<td>Byggnadsteknologi</td>
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<td>Geo</td>
<td>Hydrogeologi och geoteknik, civilingenjör Infrastruktur, civilingenjör</td>
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<td>Infrastruktur, civilingenjör</td>
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<td>Vatten/Miljö</td>
<td>Miljö- och vattenteknik Hydrologi och dagvatten</td>
</tr>
<tr>
<td>Projekt- och produktionsledning</td>
<td>Projekteringsmetodik, samordning Byggproduktion och logistik</td>
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