NNIT, NetCompany, Vodafone, Edlund, NetCompany, Traen A/S, Nordea, Deltek (Maconomy), cBrain, Maconomy, Maconomy, PFA Pension, Accenture, Novo Nordisk, IBM Denmark, IT University of Copenhagen, Nordea, Microsoft, Configit A/S, Delfi Data A/S, APC, Capital Markets Technologies A/S, cBrain, Delfi Data A/S, Norwegian University of Science and Technology, Fujitsu, Roskilde University Centre, SimCorp, Novo Nordisk
### Study Structure and Courses

<table>
<thead>
<tr>
<th>1st semester (Spring)</th>
<th>Programming</th>
<th>Foundations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introductory Programming</td>
<td>7.5 ECTS credits</td>
<td>Foundations of Computing - Discrete Mathematics 7.5 ECTS credits</td>
</tr>
<tr>
<td>Programming Workshop (project cluster)</td>
<td>7.5 ECTS credits</td>
<td></td>
</tr>
<tr>
<td>Introduction to Database Design</td>
<td>7.5 ECTS credits</td>
<td></td>
</tr>
<tr>
<td>2nd semester (Autumn)</td>
<td>Specialisation Part 1</td>
<td>Elective module</td>
</tr>
<tr>
<td>Specialisation Course 1</td>
<td>7.5 ECTS credits</td>
<td>Course or Project**</td>
</tr>
<tr>
<td>3rd semester (Spring)</td>
<td>Specialisation Part 2</td>
<td>Elective Modules</td>
</tr>
<tr>
<td>Specialisation Course 2 (and 3)</td>
<td></td>
<td>Course or Project**</td>
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<tr>
<td>4th semester (Autumn)</td>
<td>Master Thesis</td>
<td>30 ECTS credits</td>
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* A specialisation can be chosen among the ones offered within the study programme track.
** A course of 7.5 ECTS chosen among all courses offered at ITU, except from bachelor courses. The module can also be used for writing a project under supervision. Elective modules of 7.5 ECTS can also be combined to make room for larger study activities of 15 ECTS credits.
<table>
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<th>Semester</th>
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| **1st semester** (Spring) | **Software Engineering**  
Model Driven Development  
7.5 ECTS credits  
Course or Project**  
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7.5 ECTS credits |
| **2nd semester** (Autumn) | **Specialisation Part 1**  
Specialisation Course 1  
7.5 ECTS credits  
Algorithm Design I  
7.5 ECTS credits  
Software Development Project  
Global Software Development  
(project cluster)  
15 ECTS credits |
| **3rd semester** (Spring) | **Specialisation Part 2**  
Specialisation Course 2 (and 3)  
15 ECTS credits  
Software Engineering  
Advanced Software Engineering, System Architecture and Security or Enterprise Architecture  
7.5 ECTS credits |
| **4th semester** (Autumn) | **Master Thesis**  
30 ECTS credits |

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Course overview
Entirely Idiosyncratic
Andrzej’s Advice on
Planning Your Studies
What Is My Dream Job?

Objective: get a rewarding job, not to ‘just pass’ through. It takes effort to get best paid jobs among ITU graduates. SDT has reputation of the most demanding study line.

Advice 1: Match your courses to your job expectations.
We expect from You

An Example

- Degree in IT, natural science or finance/economics
- Willing to learn financial products and pricing models
  - Perhaps I want an elective in introductory finance?
- Programming experience, C# experience is a plus
- Wish to work with application- & system development
  - need to take programming courses, gain C# experience
- Are used to deadlines, pay attention to detail and take pride in delivering a good solution.
  - it pays off to study on time? Get good grades?
- Are fluent in written and spoken English
  - I should not let the Brit on our team write all the reports
• You have some experience with functional programming (OCaml, Standard ML, Haskell, F#, etc.).
  • Programming Language Seminar? Models and Programs?

• If you have a PhD, we will not hold it against you.
  • seminars, research projects, individual specialization
    • phd courses, publication

• You master design, generalization, and abstract thinking as well.
  • algorithms, AI, semantics courses

• You have a strong drive and you are not afraid to take the lead
  • group projects
Is 120 ECTS a lot?

- This is an enormous budget (192 000 dkk! more ...)
- Buy something good, not something poor.
- All our courses are good, but some combinations are better for you.
- A bad combination example: In the BSc, you have followed two courses on databases You choose to follow Introduction to database design.

Advice 2: You spend a large budget. Spend it wise!
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Why does SDT have specializations?

- This is our way to balance **broadness vs depth**

**Advice 3:** Electives, not your specialization, can be used to broaden.
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**Advice 3:** Electives, not your specialization, *can* be used to broaden.
Thesis and Specialization are Coupled!

Thesis and specialization go together!

Write your thesis in your specialization!

What is the subject area? What kind of questions are interesting? Is it a theoretical thesis? Is it applied?

Advice 4: Envision your thesis, choose specialization
Thesis and Specialization are Coupled!

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Specialization is done in a team!

You spend a year, taking a big chunk of your courses, with the same people. Likely you will write a thesis with some of them.

What needs help? What is better done alone?

Advice 5: Make a course wishlist. Register for courses that are most difficult to self study.
Specialization is done in a team!

You spend a year, taking a big chunk of your courses, with the same people. Likely you will write a thesis with some of them.

What needs help? What is better done alone?

Advice 5: Make a course wishlist. Register for courses that are most difficult to self study.
Your dream thesis advisor :)

"We want a project with you, but not your project"

- Each supervisor offers supervision in a certain area, or on certain predefined topics.
- You can always propose your own topic!
- But student topics not always easily find advisors.

Advice 6: Figure out what background is needed to write a thesis with supervisors you like.
Things can still be fixed later ...

- Change specialization or apply for an individual one

Everything can be fixed, but ...
... sometimes it is hard to fix, when it is late

Advice 7: Evaluate your curriculum regularly before each course registration period. The first evaluation is most important.
Recap

1. Match your courses to your future job
2. Do not waste your ECTS budget
3. Use the electives to broaden. Use the specialization to specialize
4. Envision your thesis, choose your specialization
5. Register for *(interesting!)*, but difficult to do alone courses
6. Figure out what background is needed to write a thesis with supervisors you like
7. Evaluate your curriculum regularly before each course registration period
Some Cancellations
Among the Mandatory courses for SE-track

- **Advanced Software Engineering and Cloud Computing** are cancelled
- We approve as possible replacements for the backbone:
  - System Architecture and Security (English),
  - T8 Enterprise Architecture (English),
  - Anskaffelse og kravspecifikation (in Danish),
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New Specialization
Pervasive Computing

- Mobile App Programming
  Pervasive Computing
  Pervasive Computing Project

- We recommend taking OOP in parallel if you do not have extensive OO programming experience.

- If you have experience with mobile app programming, you can still take the old version of the specialization.
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- Big Data Management 7.5 ECTS
- Data Mining 7.5 ECTS
- Intelligent Systems Programming 7.5 ECTS

- Starts every semester

- The old specialization in databases (with database tuning remains in place)
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