IT Master Programs at TTÜ / TalTech – Future Plans...

Peeter Ellervee

IEEE Estonia Section August Seminar 2021
# Master Programs – Applications

<table>
<thead>
<tr>
<th>Program</th>
<th>2021</th>
<th>2020</th>
<th>2019</th>
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</thead>
<tbody>
<tr>
<td>IASM02/18 Computer and Systems Engineering</td>
<td>9+31</td>
<td>19+8</td>
<td>10+54</td>
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<tr>
<td>IVGM13/18 E-Governance Technologies and Services</td>
<td>16+28</td>
<td>9+11</td>
<td>5+82</td>
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<td>IVEM11/20 Communicative Electronics</td>
<td>7+13</td>
<td>16+5</td>
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<tr>
<td>IAPM02/18 Computer Science</td>
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<td>IAAM17/19 Analysis and Design of Information Systems</td>
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<td>IAHM19/21 Medical Technology and -Physics</td>
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<tr>
<td>YVEM09/21 Digital Health</td>
<td>37+9</td>
<td>44+3</td>
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<td>IABM02/20 Business Information Technology</td>
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<td>IADM18/18 Digital Transformation in Business</td>
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<td>122</td>
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<tr>
<td>IVCM09/21 Cybersecurity (+UT)</td>
<td>30+32</td>
<td>39+16</td>
<td>18+127</td>
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<tr>
<td>IVSM09/18 Software Engineering (+UT)</td>
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Problems & Solutions

• Rather many courses with similar content in different study programs
• Sharing not only courses but blocks of courses between study programs
• T-shape / Comb-shape programs
  • Wide basics
  • Narrow specializations
Solutions & Problems

• Micro-degree == block of course
• Study program == set of micro-degrees
  • Is it possible?
  • What are complications?
• Different study programs
  • Share blocks not courses?
• The same between engineering & IT
  • Electronics at different levels to start with?
The New Programs – 😊 / 😞

• Courses 3, 6, 9 etc. ECTS
  • Earlier 1-6 ECTS – no regularity
  • The good (?)
    • Replacements simplified – student mobility, continuing earlier studies, etc.
    • Easier to schedule lectures, labs, etc.
    • Motivation to upgrade courses
  • The bad (?)
    • Hard to merge apples and oranges
    • More professors/lecturers involved in a course – but who is the responsible one?
    • 5 → 6 ECTS – no actual change too often → courses have different levels of difficulty...
IT bachelor programs

• The dream 😊
  • Common (or replaceable) courses in the first year
    • Easy to move between study programs
  • Sharing courses in the following years
    • Flexible sets of elective courses (tracks?)

1st year  5 courses (6 ECTS each)

2nd year

3rd year

Programs & specializations
IT bachelor programs

• The reality 😞
  • No common 1\textsuperscript{st} year courses in some programs
    • Not enough time to reach the common ground
  • Common courses in different years
    • Certain topics are taught at different times
Solutions?

• Reorganizing programs based on experiences from the other universities
  • It is hard to select between so many versions

• Current situation - one program (one specialization)
  • Some programs have minor specialty modules for students from the other programs / specializations

• A possible solution – forget specializations, use tracks (of topics areas)
  • Two/three tracks must be followed (out of five/six/...)
  • Tracks have (overlapping) compulsory and elective courses