Supervisors: HiB or UiB or joint, possibly also external

Two branches, determines compulsory courses

- PU – software engineering:
  INF234(A), MOD250(A), MOD251(S)

- PUT – programming theory: INF234(A) and 3 of
  INF220(A), INF225(I-A1), INF329(I-A1),
  INF223(S), INF227(S), or INF210(I)

Remaining courses freely selected from HiB / UiB

Two master thesis variants (talk to supervisor)

- Long: 60 stp, deadline 1 June 2018
  Research/development oriented, needed for PhD
- Short: 30 stp, strict start/end dates
  More structured studies, 3 extra courses
What is “programutvikling” (PUT)?

- English: Software Engineering
  In practice: computer programming using experience, tools, common sense and a tiny bit of theory.
- Our research at II/UiB aims to reverse this order:
  1. a solid theoretical base
  2. innovative themes
  3. developing tools
  4. gaining experience
- Research and projects range from highly theoretical, to highly practical! — independently of chosen track or long/short thesis
Staff of PUT

Marc Bezem  Magne Haveraaen  Torill Hamre (II)

Anya Bagge  Jaakko Järvi  Michał Walicki  Uwe Wolter
Research Themes & Supervisors

- Programming languages & tools (Anya, Jaakko, Magne)
  - Magnolia – our research language
  - User interface logic – a new programming model
  - Tools for software development and evolution
  - Software (language) engineering
  - High integrity systems (reliable, robust, safe, secure)

- Logic & foundations (Marc, Michał, Uwe)
  - logical systems & formal proofs
  - foundations of model driven engineering
  - theory of computation
  - type theory

- Geographical information systems (Torill)

- Other topics (everybody)
  - in cooperation with industry / research institutions / others
  - proposed by students
  - databases
Master Topics & Courses

- Many topics require specific background knowledge
  - take specialised course before starting the thesis

- Many courses have irregular schedules
  - take the course when it is available

- Fun courses you may want to include

- All compulsory courses have regular schedules
  - autumn courses can be taken 1st/3rd semester
  - spring courses can be taken 2nd/4th semester

- Ask advice from supervisors
  - ask advice early!
  - Courses start next week
Courses for PU/PUT - 1st semester

Autumn 2016
– ● INF 220 Program specification (Magne Haveraaen)
– ● INF 225 Program Translation (Anya Bagge)
– INF 226 Software security (Samson Gejibo)
– ● INF 329 Selected Topics in Programming Theory (Jaakko Järvi)
– *●INF 234 Algorithms
– * MOD 250 Advanced Software Technologies
– MOD 252 Agent Technologies
– MOD 351 Introduction to Grid and Cloud Computing

All semesters (ask supervisor)
– INF 219 Programming Project (possibly bachelor)
– INF 319 Programming Project (master)
Courses for PU/PUT - 2nd semester

Spring 2017
- **INF 222** Programming Languages (Jaakko Järvi) = INF 329 aut 2016
- ● INF 223 Category Theory (Uwe Wolter)
- ● INF 227 Introduction to logic (Marc Bezem?)
- * MOD 251 Modern Software Development Methods
- MOD 350 Model driven Software Development

All semesters (ask supervisor)
- INF 219 Programming Project (possibly bachelor)
- INF 319 Programming Project (master)
Autumn 2017
– INF 214 Concurrent programming (?)
– • INF 220 Program specification (?)
– INF 226 Software security (?)
– *• INF 234 Algorithms
– * MOD 250 Advanced Software Technologies
– MOD 252 Agent Technologies
– MOD 351 Introduction to Grid and Cloud Computing

All semesters (ask supervisor)
– INF 219 Programming Project (possibly bachelor)
– INF 319 Programming Project (master)
Courses for PU/PUT - 4th semester

Spring 2018
- INF 222 Programming Languages (Jaakko Järvi)
- INF 223 Category Theory (Uwe Wolter)
- INF 227 Introduction to logic (?)
- MOD 251 Modern Software Development Methods
- MOD 350 Model driven Software Development

All semesters (ask supervisor)
- INF 219 Programming Project (possibly bachelor)
- INF 319 Programming Project (master)

Deadline for thesis: 1 June 2018
It is not recommended to take courses in this semester!
Courses for PU/PUT - irregular

Irregular semesters (ask supervisor)
- INF 210 Modelling of Computing
- INF 328 Elements of Programming Languages
- INF 329 Selected Topics in Programming Theory

Some fun/filler courses
- INF/INFO 207 Social Networks Theory (autumn)
- INF 236 Parallel programming (spring) – requires INF 234
- INF 250 Foundations of data-oriented visual computing (spring)
- INF 251 Computer Graphics (autumn) - requires INF 250
- INF 283 Introduction to Machine Learning (autumn)