Modellalapú szoftvertervezés vizsgatételek 2017

1) Domain-specific languages, metamodeling, EMF

a) Metamodel vs instance model **02\_dia**

b) Metamodeling levels, multi-level metamodeling, deep instantiation **02,04a\_dia**

c) Concrete syntax vs. abstract syntax **03\_dia**

d) Well-formedness constraints **05\_dia**

e) Derived features and Views **05\_dia**

f) Static vs. dynamic (behavioural) modeling languages **03\_dia**

g) Operational vs. denotational semantics (dynamic) **03\_dia**

**h) Generative vs. interpreted modeling (e.g. architecture of EMF vs. Sirius)**

i) Core concepts in Ecore metamodels (EClass, EReference, EAttribute) **04a\_dia**

2) Model queries, transformation and code generation

a) Applications of model queries **05\_dia**

b) Model queries with OCL: core language concepts **04b\_dia**

c) Model queries with graph patterns (e.g. VQL): core ideas and language elements**05\_dia**

d) Local search vs. incremental graph pattern evaluation **05\_dia**

e) Graph transformation rules (structure + core semantics) **09\_dia 20->25**

f) Causal dependence vs. conflicts in graph transformation **09\_dia 32->36**

g) Model transformations (M2T and M2M) vs Model transformation chains **09\_dia**

h) Incremental model transformations (forward vs. backward vs change-driven) **09\_dia 44->46**

i) Levels of incrementality in model transformations **09\_dia 48->51**

j) Reactive transformations **09\_dia 64->66**

3) Concrete syntax and code generation

a) Textual vs. graphical syntax and editors **06\_dia**

b) Parser-based vs. projectional editing for textual syntax **[[1]](#footnote-1)**

c) Lexer vs. parser, AST vs. DOM d) Grammar vs. derivation vs derivation tree **[[2]](#footnote-2)**

e) **Architecture of graphical editors and views**

f) **Specification methods of graphical editors and views**

g) Ad hoc / dedicated vs. templated based code generators **08\_dia**

h) Direct source code generation vs. AST generation **08\_dia**

i) Model-code synchronization, dealing with manually written parts **08\_dia**

4) Model management, advanced modeling topics

a) Standard model serialization in XMI (e.g. in EMF) **13\_dia**

b) Model comparison / model differencing vs model merge **13\_dia**

c) Evolution: Model vs. metamodel vs. transformation **13\_dia**

d) Megamodels, global model management **13\_dia**

e) Back-annotation, Traceability of transformations **09\_dia 88->100**

f) Offline vs. online collaborative modeling **13\_dia**

5) Applications

a) Models and transformations in Critical Systems, V/Y Development processes **01\_dia 4->7**

b) MDA: CIM vs PIM vs PSM, role and benefit of PIM-PSM mappings **01\_dia**

c) Refactoring, Reverse engineering **01\_dia 30**

d) Simulations, Functional Mock-up **12\_dia**

e) Design space exploration **09\_dia-52->62**

1. https://cloudalion.org/2016/05/29/whats-the-deal-with-projectional-editing/ [↑](#footnote-ref-1)
2. https://stackoverflow.com/questions/2842809/lexers-vs-parsers [↑](#footnote-ref-2)