

## Graph Mining – Final Schedule (Spring 2021)

Week 1: Graphs and Intractability (23-24 February)

Week 2: Maximum Flow Algorithms (2 March)

Week 3: Maximum Flow Algorithms Continued (9 March)

Subgraph Mining, Finding Triangles & Cores (10 March)

[Assignment of Programming Homework \(13 March\)](#)

Week 4: Finding Trusses, SCCs, Cliques & Cycles

[Deadline for Choosing a Research Project \(19 March\)](#)

Week 5: Graph & Subgraph Isomorphism (23 March)

Frequent Subgraph Mining (24 March)

Week 6: Spectral Graph Theory - **Kamer Kaya** (30-31 March)

Week 7: Graph Kernels – **Öznur Taştan** (6-7 April)

Week 8: [Research Project Progress Presentations \(13-14 April\)](#)

Week 9: Minimum-Cost Flow Algorithms (20-21 April)

Week 10: Optimal Transport (27-28 April)

Week 11: **No classes** – Sickness (4-5 May)

Week 12: **No classes** – Ramadan Break (11-12 May)

Week 13: [Research Project Final Presentations](#) (18 May)

Week 14: [Research Project Final Presentations](#) (25-26 May)

## Research Project Assignments

Using Electronic Health Record based Knowledge Graphs for Patient Prediction → **Ege Alpay**

Discovering subject specific time varying gene regulatory modules → **Ali Osman Berk Şapcı**

Scalable Optimal Transport → **Arda Şener**

Optimal Transport for Single Cell Alignment → **Aysu Boğatarkan**

Efficient and Optimal GNN Implementation on Graphcore IPUs → **Amro Alabsi Aljundi** and **Taha Atahan Akyıldız**

Neural Subgraph Matching → **Ekberjan Derman** and **Ahmmad O.M. Saleh**

Frequent Subgraph Mining Using GNNs → **Veysel O. Kaya** and **Umit Akkose**

What GNNs Can Learn → **Çağrı Uluç Yıldırımoğlu**

Source Code Summarization via GNNs → **Mohammad Yusaf Azimi**

Mining Large Graphs on GPUs with Unified Memory → **Fatih Taşyaran**

Combinatorial Subgraph Matching → **Berk Canlı**