

TOPIC PLAN		
Partner organization	Belgrade Metropolitan University	
Topic	Recurrence relations	
Lesson title	Recurrence relations	
Learning objectives	• Understand introductory concepts related to recurrence relations • Solve a linear recurrence relation with constant coefficients • Solve homogeneous linear recurrence relations of the second order	Methodology ☐ Modeling ☐ Collaborative learning ☐ Project based learning X Problem based learning
Aim of the lecture / Description of the practical problem	Methods for solving some recurrence relations, that is, finding an explicit expression for the general term of a recursively defined sequence in special cases linear recursions with constant coefficients and homogeneous linear recursions with constant coefficients of the second order.	Strategies/Activities ☐ Graphic Organizer ☐ Think/Pair/Share X Discussion questions Assessment for learning ☐ Observations ☐ Conversations X Work sample ☐ Conference ☐ Check list ☐ Diagnostics
Previous knowledge assumed:	Understanding relations and recursions	Assessment as learning

Introduction / Theoretical basics	Definition of recursion Examples of recursions in programming Tower of Hanoi as an example	XSelf-assessment ☐ Peer-assessment ☐ Presentation ☐ Graphic Organizer XHomework Assessment of learning XTest ☐ Quiz ☐ Presentation ☐ Project ☐ Published work
Action	Examples of solving recurrence relations Self-assessment tests Exercises for students to complete individually Forum discussions	
Materials / equipment / digital tools / software	Presentation/Projector/White board LAMS Combination of presentation and interactive material.	
Consolidation	• The teacher's discussion with the students through appropriate questions; • Independent solving of simple tasks by the students under the supervision of the teacher; • Given of examples by the teacher for introducing a new concept in a cooperation and a discussion with the students; Assignment of homework by the teacher with a time limit until the next class.	
Reflections and next steps		
Activities that worked		Parts to be revisited
Interactive materials Recorded video lesson		

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References

- [1] Rosen, Kenneth H. "Discrete mathematics and its applications." AMC 10 (2007): 12.
- [2] Epp, Susanna S. Discrete mathematics with applications. Cengage Learning, 2010.

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