

Advance Topics in Software Testing

Vescan Andreea, PHD, Assoc. Prof.



Faculty of Mathematics and Computer Science
Babeş-Bolyai University

Cluj-Napoca

2022-2023



Faculty of Mathematics and Computer Science

Babeş-Bolyai University

“Tell me and I forget, teach me and I may remember, involve me and I learn.”

(Benjamin Franklin)

Outline

- **Class Management**
- Teachers
- Class schedule
- Grading
 - Overall activity
 - Seminar activity



Class Management

- Microsoft Teams
- Join
 - Microsoft Team: **Master_ATST_2022_2023**
 - Code: **tov3pg8**



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Teachers

- Assoc. Prof. Vescan Andreea
 - Lecture
 - Seminar



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What you will learn + Motivation

- Testing Web applications
- API testing
- Performance testing
- Security testing
- Mobile testing



skills



Miro/Jamboard – working together

What would you like to learn?

What was your Motivation to choose this optional?

https://jamboard.google.com/d/16k7UEXRmPHtS55_YrkG8s5yE9H1d6jYMHMo74D7JnUw/viewer?f=0

Class schedule (tentative)

1	5 oct.	SoftwareTesting	Assignment 1 Web GUI automation
2	12 oct.	Web GUI automation (prerequisite)	
3	19 oct.	Web GUI automation (1)	
4	26 oct.	Web GUI automation (2)	
5	2 nov.	JS Unit Tests	Assignment 2 API testing
6	9 nov.	API testing (1) (EVOZON pending)	
7	16 nov.	API testing (2)	
8	23 nov.	Performance testing (1) (Nagarro pending)	Assignment 3 Performance testing
9	30 nov. (no class)	Performance testing (2)	
10	7 dec.	Security testing	
11	14 dec.	Mobile testing (Altom pending)	
12	21. dec.	Continuous integration	
		Holiday	
13	11 ian.	Report Presentation	
14	18 ian.	Exam preparation	

Class	Room, hours
Lecture (Wednesday)	C335 10-12
Seminar (Wednesday)	L338 8-10 (even week)

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Grading

https://www.cs.ubbcluj.ro/files/curricula/2022/syllabus/IS_sem3_MME8150_en_aves_can_2022_6738.pdf

Research

- Dissertation Thesis
- Internship in Specialization

$$\text{Final Grade} = 50\% * \text{Project} + 25\% * \text{WrittenExam} + 25\% * \text{PracticalExam}$$

My Proposal

- Final Grade = 30%*(A1a+A2a+A3a) + 20%*Report + 50% Exam (20%Quiz+30%*(A1b+A2b+A3b))
- Conditions to participate at the final exam
 - There is no restriction regarding the participation at the written examination regarding obtained marks A1a, A2a, A3a, R.
- A1a,A2a,A3a, Report work may not be redone in the retake session.
- Conditions to pass/complete the ATST discipline:
 - Final Grade >= 5 final grade.

<http://www.techedupteacher.com/gamify-your-class-level-i-xp-grading-system-2/>

Gamify Your Class

	Side Quests (Lab projects)	Social Quests (Report/Prese ntation)	Epic Quests (Final exam)
Normal session	A1a+A2a+A3a 900 XP	Up to 600 XP	Up to 1400 XP (Quiz 500 + A1b+A2b+A3b 900 XP)
Retake session	Received during Normal session <small>Points obtained in the didactic activity period (labs and seminar and bonus activity cannot be redone in the normal/retake session).</small>		Up to 1400XP

XP intervals	Grade
[1400,1500]	5
[1501,1800]	6
[1801,2100]	7
[2101,2400]	8
[2401,2700]	9
Over 2700	10

Final exam – you must come (be present) to the final exam in order to compute the grade!

Side Quests (Lab projects)

- **Team: 2 students/team**
- $A1a+A2a+A3a = 900$ XP (during Laboratories)
 - A1a - Web testing
 - A2a - API testing
 - A3a - Performance testing
- $A1b+A2b+A3b = 900$ XP (provided during Laboratories, part of the Final Exam)
 - A1b - Web testing
 - A2b - API testing
 - A3b - Performance testing

Social Quests (Report and Presentation)

- Up to 600 XP
- Conduct a Systematic Literature Review on a provided research topic.
 - Automatic Test case generation for API testing
 - Change impact analysis
 - Test smells
- References
 - Barbara Kitchenham, Procedures for Performing Systematic Reviews, 2004
 - Barbara Kitchenham, Guidelines for performing Systematic Literature Reviews in Software Engineering, 2007
 - Example 1: PhD Thesis (Chapter 3)
 - Example 2: Report+Presentation+Video by a student from the ATST-2021.
- Team: 2 students/team
- Tasks (48h:12=4h/week)
 - 01. Search and save the title (doi) of the articles (minimum 30 articles) (6h)
 - 02. Read abstracts and reduce from 30 to 10 papers (6h)
 - 03. Read each of the 10 papers and produce 1 paragraph (approach, used method, dataset, obtained results) (3h*10articles=30h)
 - 04. Summarizing table with the 10 articles (6h)
 - 05. Report containing
 - Explain the methodology applied (all the steps and findings regarding various characteristics of the selected articles).
 - The 10 paragraphs and the Summarizing table.
 - 06. Presentation during last 2 lectures (lecture 13 and lecture 14 (if extra time needed)). – Pecha Kucha presentation type (5 minutes)

You can create an account here <https://www.e-information.ro/> (use @scs.ubbcluj.ro account) and download the papers. If the papers are not available, please email the teacher the doi id of the paper.

SLR report template

<https://www.overleaf.com/1319883186nxdmpxthjngb>

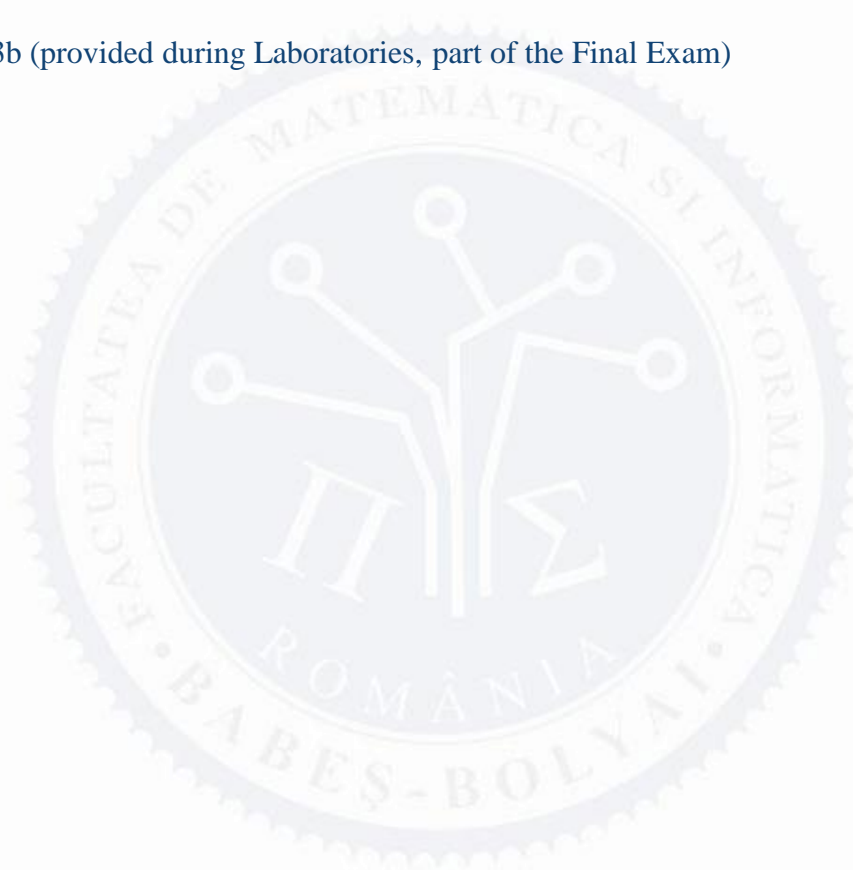
Create a copy and change the names for Student1 and Student2 (2022_ATST_SLR_Student1Student2) and share to andreea.vescan@gmail.com.

SLR Report pdf + Recorded 5min Video

Must be submitted in Teams under the Assignment Assignment_SRL_Report – one day before Lecture 13 at 8:00 am (in 10 January 2023)

Epic Quests (Final exam)

- Up to 1400 XP
 - 900 XP - A1b+A2b+A3b (provided during Laboratories, part of the Final Exam)
 - 500 XP - Quiz



Bonus

- Research activity (30h:12=2,5 h/week)
 - 600 XP
 - 2 students + teacher
 - Next “step” of the Report
 - Design (6h)
 - Implementation +1 experiment (24h)
 - Paper to be submitted to a Journal/Conference
 - 3 team maximum allowed (first 3 teams announced until 21 October 2022)

Research

- Dissertation Thesis
- Internship in Specialization

Publications with students

- EMSE 2019/2020
- Studia Informatica
 - EASE 2021
- ASE 2020/2021(?)

Grading

- Your input about grading
- Mentimeter
 - [menti.com](https://www.menti.com)
 - Use code: 6743 7185
- Update by next week about the Grading

