

CURRICULUM DESCRIPTION / **FIŞA DISCIPLINEI**

1. Program information / Date despre program

1.1 Higher education institution / <i>Instituția de învățământ superior</i>	West University of Timișoara / <i>Universitatea de Vest din Timișoara</i>
1.2 Faculty / Department / <i>Facultatea / Departamentul</i>	Mathematics and Informatics / <i>Matematică și Informatică</i>
1.3 Department / <i>Departamentul</i>	Informatics / <i>Informatică</i>
1.4 Study area / <i>Domeniul de studii</i>	Informatics / <i>Informatică</i>
1.5 Study cycle / <i>Ciclul de studii</i>	Masters / <i>Master</i>
1.6 Study program / Qualification / <i>Programul de studii / Calificarea</i>	Cybersecurity / Specialist in security-focused procedures and tools for information systems / <i>Securitate Cibernetică / Specialist în proceduri și instrumente de securitate a sistemelor informative</i>

2. Curriculum information / Date despre disciplină

2.1 Name of class / <i>Denumirea disciplinei</i>	FINANCIAL AND BANKING SECURITY						
2.2 Teacher for lecture / <i>Titularul activităților de curs</i>	Lecturer : Prof. PhD DIMA BOGDAN						
2.3 Teacher for laboratory / <i>Titularul activităților de seminar</i>	Lecturer: Prof. PhD DIMA BOGDAN						
2.4 Year of study / <i>Anul de studiu</i>	1	2.5 Semester / <i>Semestrul</i>	1	2.6 Evaluation type / <i>Tipul de evaluare</i>	E	2.7 Type of class / <i>Regimul disciplinei</i>	CO

3. Estimated total time (hours per semester for didactic activities) / Timpul total estimat (ore pe semestru al activităților didactice)

3.1 Hours per week / <i>Număr de ore pe săptămână</i>	3	of which / <i>din care:</i> 3.2 lecture / <i>curs</i>	2	3.3 seminary/laboratory / <i>seminar/laborator</i>	1
3.4 Hours in curriculum plan / <i>Total ore din planul de învățământ</i>	42	of which / <i>din care:</i> 3.5 lecture / <i>curs</i>	28	3.6 seminary/laboratory / <i>seminar/laborator</i>	14
Time distribution: / <i>Distribuția fondului de timp:</i>					hours / <i>ore</i>
Study time using the manual, lecture reading material, bibliography and notes / <i>Studiul după manual, suport de curs, bibliografie și notițe</i>					48

Suplimentary documentation inside a library, or online / on the field / <i>Documentare suplimentară în bibliotecă, pe platformele electronice de specialitate / pe teren</i>	20
Seminary/laboratory preparation, homework, research paper, portfolios and essays / <i>Pregătire seminare / laboratoare, teme, referate, portofolii și eseuri</i>	20
Tutorship / <i>Tutoriat</i>	4
Exminations / <i>Examinări</i>	6
Other activities / <i>Alte activități</i>	10
3.7 Total hours of individual study / <i>Total ore studiu individual</i>	108
3.8 Total hours per semester / <i>Total ore pe semestru</i>	150
3.9 Number of credits / <i>Numărul de credite</i>	5

4. Preconditions (where applicable) / Precondiții (acolo unde este cazul)

4.1 for curriculum / <i>de curriculum</i>	<ul style="list-style-type: none"> • It is not the case
4.2 for competencies / <i>de competențe</i>	<ul style="list-style-type: none"> • It is not the case

5. Conditions (where applicable) / Condiții (acolo unde este cazul)

5.1 for lecture development / <i>de desfășurare a cursului</i>	<ul style="list-style-type: none"> • Students are required to cover a minimum of 50% of lectures activities <ul style="list-style-type: none"> • For those weeks with online activity, the following resources will be used: <ul style="list-style-type: none"> a) Moodle e-learning platform: https://elearning.e-uvt.ro/; b) Google Meet videoconference; • Material requirements (Internet connexion, computers classroom, video projector, Moodle access, Microsoft Office Excel); • The theoretical lecture materials will be uploaded on the Moodle platform, https://elearning.e-uvt.ro/; • Other bibliographical materials will also be uploaded on the Moodle platform, https://elearning.e-uvt.ro/.
5.2 for seminary/laboratory development / <i>de desfășurare a seminarului / laboratorului</i>	<ul style="list-style-type: none"> • Students are required to cover a minimum of 75% of seminars activities

	<ul style="list-style-type: none"> • For those weeks with online activity, the following resources will be used: a) Moodle e-learning platform: https://elearning.e-uvt.ro/; b) Google Meet videoconference; • Material requirements (Internet connexion, computers classroom, video projector, Moodle access, Microsoft Office Excel); • The applications / problems for the seminar activities will be uploaded on the Moodle platform, https://elearning.e-uvt.ro/; • Other bibliographical materials will also be uploaded on the Moodle platform, https://elearning.e-uvt.ro/.
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6. Class objectives – expected learning results, contributed to by reading and passing of the class / Obiectivele disciplinei - rezultate așteptate ale învățării la formarea cărora contribuie parcurgerea și promovarea disciplinei

Main objective	<ul style="list-style-type: none"> • Understanding the specific mechanisms and institutions for ensuring financial-banking stability and security in the context of financial globalization processes.
Specific objectives	<ul style="list-style-type: none"> • Understanding the specific evolution of the current global financial system.
Abilities / Abilități	<ul style="list-style-type: none"> • Identification of the potential contributions that ensuring and maintaining long-term financial stability can exert on the economic dimension of state security. • Understanding the role played by / the functions of financial institutions, processes and mechanisms in achieving sustainable economic growth. • Presentation of how financial-banking intermediaries are structured and operate. • Assessing various types of financial risks (with the involvement of artificial networks).

7. Contents / Conținuturi

7.1 Lecture / Curs	Teaching methods / Metode de predare	Observations / Observații
The analysis of the macroeconomic environment	Debate	2 hours – week 1
The functions of the financial system. Financial	Debate	2 hours – week 2

intermediation processes		
Financial risks taxonomy	Debate	2 hours – week 3
Prudential and regulatory supervision of the financial sector. The Basel Capital Agreement framework	Debate	2 hours – week 4
Financial markets and their economic role	Debate	2 hours – week 5
Financial stability in the context of financial globalization	Debate	2 hours – week 6
Financial stability and sustainable economic growth	Debate	2 hours – week 7
Financial risk management at the micro-prudential level	Debate	2 hours – week 8
Macro-prudential policies at the level of the member states of the European Union	Debate	12 hours – weeks 9 – 14 For weeks 11, 12, 13, 14 with online activity, the following resources will be used: a) Moodle e-learning platform: https://elearning.e-uvt.ro/ ; b) Google Meet videoconference;
Bibliography / Bibliografie : References <ol style="list-style-type: none"> Agresti, A.M., P. Baudino, and P. Poloni. 2008. "The ECB and IMF Indicators for the Macro-Prudential Analysis of the Banking Sector: A Comparison of the Two Approaches." SSRN eLibrary (9): 24–32. http://ssrn.com/paper=1144486. Ang, J.B. 2008. "A Survey of Recent Developments in the Literature of Finance and Growth". Journal of Economic Surveys, 22, 3(07), 536-576. Earlier version available at: http://www.buseco.monash.edu.au/eco/research/papers/2007/0307surveyang.pdf. Bank of Japan. 2011. Recent Conduct of Monetary Policy toward a Sustainable Growth Path with Price Stability. Available at: http://www.boj.or.jp/en/mopo/outline/sgp.htm. Benigno, G. et al. 2013. "Financial Crises and Macro-Prudential Policies." Journal of International Economics 89(2): 453–70. Bordo, M. and Wheelock, D. 1998. "Price stability and financial stability: the historical record". Federal Reserve Bank of St Louis Review, Sep/Oct, 41-62. Available at: http://research.stlouisfed.org/publications/review/98/09/9809dw.pdf. Cebula, J. J., and . R. Young. 2010. "A Taxonomy of Operational Cyber Security Risks." Carnegie-Mellon Univ Pittsburgh Pa Software Engineering Inst (December): 1–47. Cihák, M. 2007. "Introduction to applied stress testing". IMF Working Papers, March, 1-74. Available at: http://ssrn.com/abstract=973989. Damodaran, Aswath. 2003. "Country Risk and Company Exposure : Theory and Practice." Journal of Applied Finance 13(2): 63–76. Di Gregorio, Dante. 2005. "Re-Thinking Country Risk: Insights from Entrepreneurship Theory." International Business Review 14(2): 209–26. Demirgüç-Kunt, A. 2006. "Finance and economic development: policy choices for developing countries". Policy Research Working Paper Series 3955, The World Bank. Available at: http://www.wds.worldbank.org/servlet/WDSContentServer/WDSP/IB/2006/06/23/000016406_20060623142702/Rendered/PDF/wps3955.pdf. van den End, J.W. and Tabbae, M. (2005). "Measuring financial stability: Applying the MfRisk Model to the 		

- Netherlands". DNB Working Papers 030, Netherlands Central Bank, Research Department. Available at: http://www.dnb.nl/binaries/Working%20Paper%2030_tcm46-146687.pdf.
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 16. Guinchard, Audrey. 2011. "Between Hype and Understatement: Reassessing Cyber Risks as a Security Strategy." *Journal of Strategic Security* 4(2): 75–96.
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 18. Issing, O. 2003. "Monetary and financial stability - is there a trade-off?". *BIS Review* 16/2003. Available at: <http://www.bis.org/review/r030331f.pdf>.
 19. Kosub, Thomas. 2015. "Components and Challenges of Integrated Cyber Risk Management." *Zeitschrift fur die gesamte Versicherungswissenschaft* 104(5): 615–34.
 20. Merler, Silvia. 2015. "Squaring the Cycle : Financial Cycles , Capital Flows and Macro- Prudential Policy in the Euro Area." *Bruegel Working Paper* (14): 1–44.
 21. Nelson, W.R. and Perli, R. 2005. "Selected Indicators of Financial Stability". Monetary and Financial Stability Section, Division of Monetary Affairs, Federal Reserve Board. Available at: <http://www.ecb.int/events/pdf/conferences/jcbrcnf4/Perli.pdf>.
 22. Tröger, Tobias H. 2015. "Regulatory Influence on Market Conditions in the Banking Union: The Cases of Macro-Prudential Instruments and the Bail-in Tool." *European Business Organization Law Review* 16(3): 575–93.

7.2 Seminary / laboratory / Seminar / laborator	Teaching methods / Metode de predare	Observations / Observații
1. Conceptual issues	Discussions, examples, case studies	2 hours – week 1
2. Crises and risk contagion on financial markets	Discussions, examples, case studies	6 hours – weeks 2 – 4
3. Financial risks management: techniques and approaches	Discussions, examples, case studies	6 hours – weeks 5 – 7
4. Case studies in R open source language and environment	Discussions, examples, case studies	14 hours – weeks 8 – 14 For weeks 11, 12, 13, 14, with online activity, the following resources will be used: a) Moodle e-learning platform: https://elearning.e-uvt.ro/ ; b) Google Meet videoconference;

Bibliography / Bibliografie:

1. International Monetary Fund, 2010. Global Financial Stability Report Sovereigns, Funding, and Systemic Liquidity. October. Available at: <http://www.imf.org/external/pubs/ft/gfsr/2010/02/pdf/text.pdf>.
2. Nordal, Kjell B. 2001. "Country Risk, Country Risk Indices and Valuation of FDI: A Real Options Approach." *Emerging Markets Review* 2(3): 197–217.
3. <http://www.bnro.ro/Acorduri-in-domeniul-stabilitatii-financiare-3271.aspx>
4. http://www.dfs.ny.gov/reportpub/dfs_cyber_banking_report_052014.pdf
5. <https://www.pwc.com/gx/en/financial-services/publications/assets/pwc-gecs-2014-threats-to-the-financial-services-sector.pdf>

6. <https://www.iosco.org/library/pubdocs/pdf/IOSCOPD528.pdf>
7. <http://www.reuters.com/article/us-finance-summit-sec-idUSKCN0Y82K4>
8. Marco Scutari (2017). Bayesian Network Constraint-Based Structure Learning Algorithms: Parallel and Optimized Implementations in the bnlearn R Package. *Journal of Statistical Software*, 77(2), 1-20.
doi:10.18637/jss.v077.i02
9. Marco Scutari (2010). Learning Bayesian Networks with the bnlearn R Package. *Journal of Statistical Software*, 35(3), 1-22. URL <http://www.jstatsoft.org/v35/i03/>

8. Unification of class contents with the expectations of the representatives of the epistemic community, professional organisations and employers from the class's relevant field(s) of applicability / Coroborarea conținuturilor disciplinei cu așteptările reprezentanților comunității epistemice, asociațiilor profesionale și angajatorii reprezentativi din domeniul aferent programului

The content is in accordance with international standards and practices and it covers fundamental issues in the field of financial risk management.

9. Evaluation / Evaluare

Activity type / <i>Tip activitate</i>	9.1 Evaluation criteria / <i>Criterii de evaluare</i>	9.2 Evaluation methods / <i>Metode de evaluare</i>	9.3 Weight in final grade / <i>Pondere din nota finală</i>
9.4 Lecture / <i>Curs</i>	Continuous Evaluation	Individual or team projects (up to 3 students teams) on a topic related to the lecture	60%
10.4 Lecture			
10.5 Seminar	Summative Evaluation, final exam		40%
10.4 Lecture			
9.6 Minimum performance standards / <i>Standard minim de performanță</i>			
Minimum grade: 5 (five)			

Date of completion /
Data completării

Teacher for class /
Titular de disciplină

Date of approval inside department /
Data avizării în departament

Department director /
Director de departament