

# Teaching with Case Studies The INTQUANT Approach



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**INTQUANT Conference on Case Study Teaching  
Connecting Higher Education and the World of Work**

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# INTQUANT Overview

- INTQUANT has two specific objectives related to case teaching:
  - to develop, test and implement a **new practice-oriented course concept** (including **company case studies**), which will be made available as an open educational resource during the project lifetime.
  - to foster the cooperation between higher education and the world of work through the **direct cooperation with industry representatives** and **the inclusion of case studies from companies**.

 FACHHOCHSCHULE DES BFI WIEN	 ALMA MATER STUDIORUM UNIVERSITÀ DI BOLOGNA	 UNIVERSITATIS OECONOMICAE SILENSIS University of Economics in Katowice	 UNIVERSITATEA „ALEXANDRU IOAN CUZA“ din IAȘI
<b>Austria</b>	<b>Italy</b>	<b>Poland</b>	<b>Romania</b>
 Raiffeisenlandesbank Niederösterreich-Wien	 Unipol GRUPPO	 accenture High performance. Delivered.	 BCR

# INTQUANT Course Concept

- Course in *Advanced Topics* aims to educate final-year graduate students about the risk and asset management process and the challenges they may face as practitioners through a **case study approach**.
- Two models (with and without a follow-up phase) for the organization of the course and the implementation of case study approach were tested.
- Final agreed model includes two phases:
  - **Phase 1:** Preparatory reading and preparation for questions (3 ECTS)
  - **Phase 2:** Presence phase during the course (3 ECTS)
- **Practical and Theoretical Learning:** combination of lectures, additional reading materials, class discussions, group work and an **in-depth case study on a realistic business problem**.
- **Intercultural Learning:** variety of methods that include the setup of international teams based on diversification, an expert training on international teamwork, specific questions included in the case study.

# INTQUANT Course Implementation

- Course in *Advanced Topics* is embedded in the reformed curricula at each higher education institution starting starting with winter term 2015.
- Course is offered in a two-week long intensive format in cooperation with a local industry partner that supplies a case in accordance to its expertise in a specialization track:
  - ① **Advanced Topics in Asset Management**  
(UAS Vienna – Raiffeisenlandesbank Niederösterreich-Wien)
  - ② **Advanced Topics in Quantitative Methods in Finance**  
(UNIBO Bologna – Unipol)
  - ③ **Advanced Topics in Insurance Management**  
(UEK Katowice – Accenture)
  - ④ **Advanced Topics in Bank Risk Management**  
(UAIC Iași – Banca Comercială Română)

# INTQUANT Case Study Reports

- Results of the INTQUANT project consist of **6 case study reports**.
- Case study reports content and structure are linked to the outputs (O1/A1- Course Concept / O1/A2 – ECTS Descriptions and Learning Outcomes / O1/A3 - Set of Course Syllabi) of the newly developed course package *Advanced Topics*.
- Case study reports summarizes the case and the key outcomes from the **6 intensive programmes**:
  - UNIBO - "Advanced Topics in Quantitative Methods in Finance"  
(*Pilot 1* - July 2015, March 2017)
  - UAIC - "Advanced Topics in Bank Risk Management"  
(*Pilot 2* - July 2016, March 2017)
  - UAS - "Advanced Topics in Asset Management" (March 2017)
  - UEK - "Advanced Topics in Insurance Management" (March 2017)

# INTQUANT Case Study Report Structure

- The case study report consists of:
  - **the case** provided to students;
  - **the teaching note** for the lecturer;
  - **a brief overview of the key outcomes** of the case onsite learning.
- The case study report includes also at least the following **appendices**:
  - the structure of the **final case report provided by each team** of international students that analysed the case;
  - the structure of the **evaluation forms** for the student case analysis report and the onsite presentation of the group report.
- The case study and the teaching note that will be provided by the local industry representative together with the lecturer either at the university or during a company visit will follow the structure of the case study “Deutsche Bank and the Road to BASEL III” (UVA-F-1695) or “Darden Capital Management The Monticello Fund” (UVA-F-1464). Both case and teaching note should have 2-5 pages, without appendices.

# INTQUANT Case Study Report of IP2 at UAIC Iași

## ■ **Description:**

- The second case study report summarized the case study and key results from the second intensive programme held at Alexandru Ioan Cuza University of Iași in July 2016.
- The case was provided by “Banca Comercială Română” and was part of the specialization stream “Advanced Topics in Bank Risk Management”.

## ■ **(Project) Tasks:**

- Second case study report was written in cooperation between the local lecturer of the course and the respective industry representative.
- Partners provided feedback on the general template and report.
- Quality Control and Evaluation Board evaluated the report.
- Final report was uploaded on INTQUANT at the end of 2016.

IP2 Iași – 10-23 July 2016

IP6 Iași – 19-31 March 2017

# Welcome

to the Second Pilot Intensive Programme  
“Advanced Topics in Bank Risk Management”





# Case Study of Case Teaching at IP2 of UAIC Iași

- Main objectives of the case study:
  - to gain an in-depth understanding of the methods for modeling credit risk in a banking portfolio of loans for private individuals;
  - to construct a rating model that has the right balance between a high discriminatory power and selection criteria that provide a sustainable development of the society;
  - to build student judgment on ethical decisions on how a bank can help the society that is part of to develop in a sustainable way;
  - to explore the statistical methods for validation of a rating model, in terms of discriminatory power and stability of the development population.
  - summarize case findings in a team report, present and defend these in a clear and effective way;
  - work in an international team environment and use intercultural creativity to achieve an agreed outcome.

# Case Study of Case Teaching at IP2 of UAIC Iași

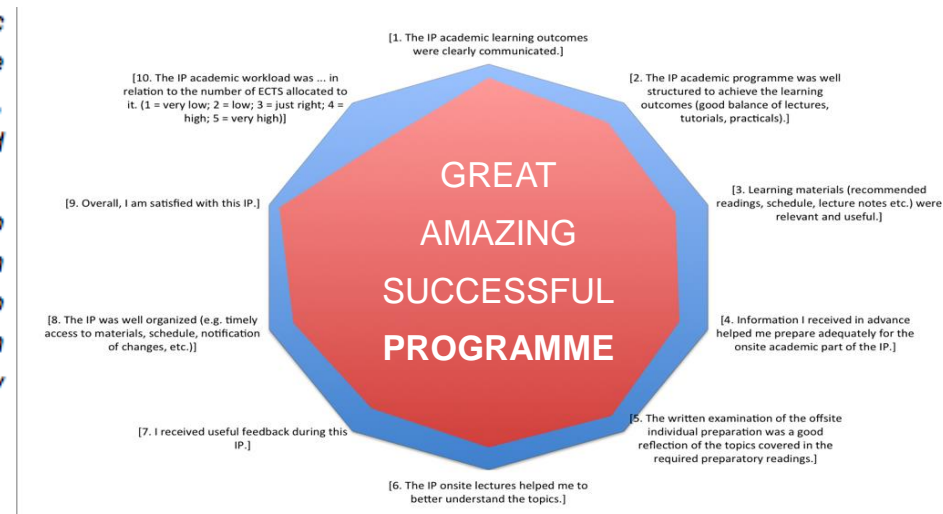
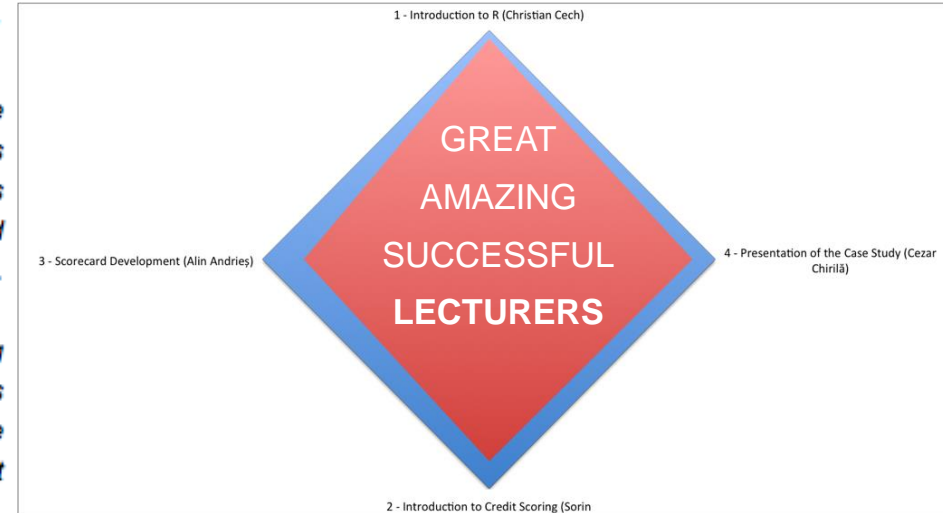
**TITLE: Banca Comercială Română and Responsible Lending on the Road to Basel III**

**PROBLEM DESCRIPTION:**

You have to join a team of students and develop a challenger model that can improve the current application of the Bank's rating model for private individuals. The Bank has disclosed in this purpose an anonymized sub-portfolio of applications of private individuals that have been approved by the bank during 2013-2014. The data for each client is related to socio-demographic information and with the default behavior for one-year time window. The detailed description can be found in Appendix 1. List of socio-demographic variables. Your team is required to analyze the 21,000 cases of applications and propose a rating model that is in line with the social principles of the common good of the bank. That means that you have to propose a target portfolio that you consider suitable for a sustainable development of the society. This target portfolio should obtain a reasonable score that would allow the Bank to do business in a safe manner, within its risk appetite.

The rating model must discriminate between clients that repay the loans and the ones that enter default in a one-year time window. The base of the rating method must be a logistic regression, with the `DEFAULT_FLAG` as target variable. The rating model must satisfy the regulatory requirements presented in Regulation 575/2013 and Regulation 5/2013, including validations that test at minimum the robustness of the model assumptions and the accuracy of the model output.

The selection committee will verify that the rating model has been developed according to the regulatory standards and that it has been properly documented. The analysis of each team will reflect the effect of the rating model on the underwriting process for the portfolio selected as being representative for sustainable development of the society. The selection committee will verify if the rating model allows for a safe business process that is properly aligned with the strategy of the Bank.



# Case Study of Case Teaching at IP2 of UAIC Iași

## What did you like about this intensive programme? (22 responses)

The practical part of knowledge that we obtained.

I liked the second week most. It was interesting to see how a scorecard can come together in practice.

Practical experience ( Hands on with subjects of credit risk ) and now I am more confident on R programming. Have been using it on various assignments in Vienna. Also the intercultural aspect of the program. An opportunity to be exposed to students from various backgrounds trying to mold in a certain way is a very rare opportunity. Also my gratitude to Silviu and Dorina for being amazing hosts, they made our lives so much easier and fun.

It was really productive (and nice) to work in an international team.

networking with other nations, practical part - coding in R, the skype chats with Bukurest

Dealing with a practical example within a short time frame, as it might be in the business world. Also seeing how things are done in practice, compared to how they are taught.

I liked the structure of the programme, because it was well prepared and very logical to have firstly theoretical introduction and then practical part. Besides this the lecturers were perfectly prepared and ready to help us anytime we needed it. Also it is very good that the cultural aspect wasn't omitted and we could taste Romanian food and get to know Iași a bit.

intensive content

# Case Study of Case Teaching at IP2 of UAIC Iași

- Working in international teams - Building a credit scoring model based on real data

It was a great opportunity to meet other international students from other universities, studying in the same field as me, changing ideas and having good times with them. Also, the main topic, "Credit Scoring", was a new topic for me and by developing the Scorecard in R program, I was able to learn something new, gaining new skills and capabilities along with a good team collaboration.

First of all, the location and the kindness and availability of the managers. I enjoyed the R introductory course and the case study was challenging.

International environment

A lot of activities, good quality lecture

The collaboration with BCR on the study case

Meeting nice people and getting in touch with them. I really enjoyed the time there.

# Case Study of Case Teaching at IP2 of UAIC Iași

The topic and the international flavour

The experience with the other students and the activities organised by the host. The topic of the IP was itself very interesting but how its presentation came up short.

Cool lecturers and organizers, practice oriented, program did not allow to be bored; appropriate balance between theory and application.

I really liked this programme because there were theoretical and practical classes aswell.

The topic was challenging and presented well, the teams was diverse.

Practical knowledge - case study; active involvement of people from the University of Iasi - especially trip, trying Romanian food; work in international teams - possibility to meet people from all over the world.

I was able to maintain a practical And teoretical knowledge from bulding credit scoring. Moreover in international teams I improved my english

# Thank you!

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