

## **MOOC: FUNDAMENTALS OF FINANCIAL AND MANAGEMENT ACCOUNTING**

### ***1.1. Summary of the initiative, including its main educational objectives***

The teaching initiative the candidate would like to submit to the attention of the commission is the MOOC (Massive Online Open Course) called “Fundamentals of financial and management accounting”.

The course is provided within the MOOC list offered by Politecnico di Milano on a platform called POK (<https://www.pok.polimi.it/>).

The aim of the MOOC is in line with the philosophy of all the MOOCs provided by Politecnico: bridging gaps. In particular, this MOOC is intended to bridge gaps of those students entering the master degree at Politecnico di Milano by providing some basics elements about financial and management accounting.

Following this aim, the MOOC targets Polimi students that will enrol master courses, but also those individual (students and workers) that are dealing with financial and management accounting and would like to refresh their past knowledge or develop new competences on this topic.

Attending the MOOC does not require any particular background given its aim to provide basics accounting pillars.

In order to provide a general background on both financial and management accounting, the MOOC is organised into five weeks, each of them addressing a key topic:

- 1. Introduction to accounting:** definition of key concepts related to accounting such as shareholders, stakeholders and net present value. Distinction between financial and management accounting;
- 2. Financial reports:** the structure and content of financial reports according to the IAS/IFRS principles (i.e. balance sheet, income statement, cash flow statement, statement of changes in equity, notes to the annual report);
- 3. Management accounting:** the definition of management accounting, introduction to costs, costs classification, costs allocation and costs allocation methodologies (i.e. Job Order Costing and Activity Based Costing);
- 4. Long Term Decision making:** long term decision making, investment appraisal and NPV (Net Present Value) computation as an investment appraisal technique;
- 5. Short Term Decision making:** key features of short term decisions, contribution margin and break-even point.

Each week is then organized into sub-topics, called “modules”. Per each module, a content is provided. The format of the content can be different and include: videos, quiz and tests.

In particular, each week (and therefore each module) is organized as follows:

- **Videos.** They are used to introduce basic concepts and each of them has its standalone content. The average length of each video is 7 minutes and there are no videos lasting more than 10 minutes to ensure a high attention by the “moocer”.
- **Practical Quizzes.** At the end of each module, a quiz is provided to test the level of appraisal. The test is structured through a set of closed questions and small exercises.
- **Exercises.** Per each module, exercises are also provided by the teacher and discussed through a video. First, the test of the exercise is provided so that students can solve the exercise on their own and then watch the solution with the video.

Overall, the MOOC counts 37 videos for a total number of 256 registered minutes; 10 practical quizzes are available at the end of each module and 10 exercises are included in the MOOC together with their solution. Finally, at the end of the entire MOOC, a *final appraisal test* is provided. The aim is to test the overall level of appraisal of students and provide to the successful ones a certificate of attendance.

## Gianluca Spina Award for teaching excellence and innovation

The entire MOOC is available on the POK Polimi website, while single videos are also available on Youtube. Beside the structure of the MOOC into weeks and modules with their videos, quizzes and tests, also a *forum* is active where students can make questions and receive feedback by the teacher as well as by their peers.

The candidate had entirely managed and coordinated the MOOC: she defined the content, the structure and the approach to the topic, selected the material, registered the videos, prepared the exercises and manages the forum (with the support by the POK team).

### ***1.2 Presentation of the most innovative and significant features that express the excellence of the initiative***

The key features that renders this MOOC innovative can be summarized as follows:

- ***A good mix between theory and practice.*** Videos address both basics theoretical concepts, but they also provide an immediate response with examples and practical exercises. For example, when explaining the recognition of non-current assets in the balance sheet, not only the theory has been provided, but a practical example to explain this issue was given.
- ***A simple explanation of key concepts,*** making use of animations and icons and leverage on visual memory to increase the learning process. Icons and animation required the entire reorganization of the initial material available that had to be prepared ad hoc in order to be effective in a few minutes. A simple explanation of the concepts render the MOOC suitable also to individual with no financial background and that aims to develop some basics accounting skills.
- ***The completeness of the topics addressed.*** Financial and management accounting are often treated as separated issue and it is particularly difficult to find online material addressing in a simple way both financial and management accounting topics. This MOOC collects in a unique places pills of both financial and management accounting.
- ***The high accessibility of the content.*** The content is highly accessible, not only by Polimi students, but also by everyone interested in improving his/her knowledge of financial and management accounting. Moreover, the content can be accessed by registering to the Polimi POK website, but also by watching the single YouTube videos.
- ***The modularity of the content.*** The MOOC has been organized into clearly defined weeks and modules allowing participants to select (eventually) only the interested topic rather than the entire MOOC. This renders the accessibility to the specific content easier and it is in line with the idea to bridge gaps on punctual topic identified by the student.
- ***The high interactivity between students and the teacher.*** The forum ensures a high interactivity between students, but also between students and their peers. The teacher is actively involved in the forums by providing answers to students' questions.

### ***1.3 Summary of the main results***

The main results of the MOOC can be summarized as follows (see Table 1):

- Seventeen editions of the MOOC on the POK Polimi website (the last one still ongoing)
- 5604 students registered to the POK website and attending the MOOC (note that for the last edition data are not complete), of which
  - 42% are Polimi students accessing the MOOC with their Polimi account
  - 58% individual users other than Polimi students

## Gianluca Spina Award for teaching excellence and innovation

- 683 final certificates provided. The certificate is not mandatory, but it is an optional step at the completion of the MOOC. These certificates correspond to the 13% of the overall registered individuals

EDIZIONE	STARTING DATE	ENDING DATE	N. ENROLLED	of which with a Polimi Account	N. CERTIFICATES
I edizione	10/11/2014	04/01/2015	1393	541	118
II edizione	05/01/2015	22/02/2015	306	119	33
III edizione	23/02/2015	12/04/2015	228	103	35
IV edizione	13/04/2015	31/05/2015	225	62	26
V edizione	01/06/2015	27/07/2015	257	80	27
VI edizione	28/07/2015	06/09/2015	157	66	15
VII edizione	07/09/2015	31/10/2015	462	314	57
VIII edizione	01/11/2015	27/12/2015	241	97	38
IX edizione	28/12/2015	21/02/2016	309	98	32
X edizione	23/02/2016	25/04/2016	135	40	22
XI edizione	18/04/2016	12/06/2016	140	42	24
XII edizione	15/06/2016	28/08/2016	230	81	34
XIII edizione	29/08/2016	06/11/2016	539	379	82
XIV edizione	07/11/2016	15/01/2017	280	100	54
XV edizione	16/01/2017	19/03/2017	303	99	41
XVI edizione	20/03/2017	09/07/2017	329	142	45
XVII edizione	10/07/2017	20/09/2017	70		
<b>TOTAL</b>			<b>5604</b>	<b>2363</b>	<b>683</b>

Table 1: Main results of the MOOC (XVII edition is still ongoing and the provided data are partial)

In terms of customer satisfaction about the MOOC (see Table 2):

- 96,96% of the respondents had an overall satisfaction that was very positive or positive
- 2,72% an overall satisfaction that was more negative than positive
- 0,32% a negative satisfaction

The number of respondents correspond to the 4% of the overall individual registered to the MOOC and to the 33% of those obtaining a certificate

EDITION	Very negative	More negative than positive	More positive than negative	Very positive
I edizione	0,00%	11,11%	22,22%	66,67%
II edizione	0,00%	0,00%	42,11%	57,89%
III edizione	0,00%	0,00%	27,78%	72,22%
IV edizione	0,00%	0,00%	20,00%	80,00%
V edizione	0,00%	0,00%	22,22%	77,78%
VI edizione	0,00%	14,29%	42,86%	42,86%
VII edizione	0,00%	0,00%	17,39%	82,61%
VIII edizione	0,00%	0,00%	17,65%	82,35%
IX edizione	0,00%	0,00%	33,33%	66,67%
X edizione	0,00%	11,11%	22,22%	66,67%
XI edizione	0,00%	0,00%	66,67%	33,33%
XII edizione	0,00%	0,00%	12,50%	87,50%
XIII edizione	4,76%	0,00%	9,52%	85,71%
XIV edizione	0,00%	4,35%	26,09%	69,57%
XV edizione	0,00%	0,00%	43,75%	56,25%
<b>AVERAGE SATISFACTION</b>	<b>0,32%</b>	<b>2,72%</b>	<b>28,42%</b>	<b>68,54%</b>

Table 2: Customer satisfaction about the MOOC (note that customer satisfaction data are not available for the last two editions)

## 2. Selection of the material representing the initiative

Here below some material related to the MOOC is provided:

- Structure of the MOOC

WEEK	ID	MODULE	N°	VIDEO TITLE	TIPOLOGIA		
WEEK 0 – COURSE HOME	M1	About the course structure	T1	About the course structure	testo		
	M2	About you	T1	About you	testo		
WEEK 1 - Introduction to accounting	M1	1 - Introduction to the enterprise	L1	What is a company: shareholders and stakeholders	videolezione		
			L2	NPV calculation	videolezione		
			L3	What is accounting	videolezione		
			Q1	Quiz on compounding	quiz		
	M2	2 - Financial accounting	L1	Introduction to financial accounting	videolezione		
			L2	Accrual and cash principle	videolezione		
WEEK 2 - Financial reports	M1	1 - Balance Sheet	Q1	Quiz on accrual and cash principle	quiz		
			L1	Balance sheet: general overview	videolezione		
			L2	Non current assets and depreciation	videolezione		
			L3	Example on recognition of non current assets	videolezione		
			L4	Inventories	videolezione		
			L5	Equity and liabilities	videolezione		
	Q1	Quiz on Balance Sheet	quiz				
	M2	2 - Income statement and Cash flow statement	L1	Income statement: general overview	videolezione		
			L2	The impact of inventories on profit	videolezione		
			T1	Exercise on inventories	testo		
			L3	Solution to the inventories exercise	videolezione		
			L4	Cash flow statement	videolezione		
			Q1	Quiz on financial reports	quiz		
			WEEK 3 - Management accounting	M1	1 - Introduction to costs	L1	What are costs
L2						Costs classification	videolezione
L3	Costs configuration: direct vs full costs	videolezione					
Q1	Quiz on costs classifications	quiz					
M2	2 - Cost assignment	L1	Cost tracing vs cost allocation	videolezione			
		L2	JOC	videolezione			
		T1	Exercise on JOC	testo			
		L3	Solution to the JOC exercise	videolezione			
		L4	ABC	videolezione			
		T2	Exercise on ABC	testo			
		L5	Solution to the ABC exercise	videolezione			
		Q1	Quiz on costs allocation	quiz			
WEEK 4 - Long-term decision making	M1	1 - Investment appraisal	L1	What is an investment decision	videolezione		
			L2	Steps to investment appraisal	videolezione		
			Q1	Quiz on investment appraisal	quiz		
	M2	2 - NPV formula	L1	NPV method: general formula	videolezione		
			L2	NPV calculation: taxes	videolezione		
			L3	NPV calculation: external financing	videolezione		
			T1	Exercise on investment appraisal	testo		
			L4	Solution to the Investment appraisal exercise	videolezione		
Q1	Quiz on NPV formula	quiz					
WEEK 5 - Short term decision making	M1	1 - Elements of Short-term decisions	L1	What are short-term decisions	videolezione		
			L2	Evaluating short-term decisions	videolezione		
			T1	Exercise on calculation of Contribution Margin	testo		
			L3	Solution to the Contribution Margin exercise	videolezione		
			Q1	Quiz on short-term decisions	quiz		
			L1	Break even point	videolezione		
	T1	Exercise on Break Even Point	testo				
	M2	2 - Examples of short-term decisions	L2	Solution to the Break Even Point exercise	videolezione		
			L3	Production mix	videolezione		
			T2	Exercise on production mix	testo		
			L4	Solution to the Production Mix exercise	videolezione		
			L5	Evaluating alternatives	videolezione		
			T3	Exercise on evaluating alternatives	testo		
			L6	Solution to the alternatives evaluation exercise	videolezione		
Q1			Quiz on applications of short-term decisions	quiz			

- Link to the MOOC website ([https://www.pok.polimi.it/courses/course-v1:Polimi+FinAccount101+2017\\_M7/about](https://www.pok.polimi.it/courses/course-v1:Polimi+FinAccount101+2017_M7/about))<sup>1</sup>
- Link to the presentation video of the MOOC on YouTube <https://www.youtube.com/watch?v=mjPZkn9953k>

<sup>1</sup> Please note that this direct link changes every time a new edition of the MOOC is launched. The MOOC can be always reach through the general POK website <https://www.pok.polimi.it/>

## Gianluca Spina Award for teaching excellence and innovation

- Link to the YouTube channel where videos can be found [https://www.youtube.com/playlist?list=PLmKUwJ0KJQnXBrA\\_bSxp6Gf5-VSCKdBs0](https://www.youtube.com/playlist?list=PLmKUwJ0KJQnXBrA_bSxp6Gf5-VSCKdBs0)
- Rating provided by an external MOOC list website <https://www.mooc-list.com/instructor/deborah-agostino>. The MOOC obtained a rating of 9.2

### **3. Summary of the candidate/s teaching work and experience**

Deborah Agostino is assistant professor (RTD b) at Politecnico di Milano, where she got her PhD in 2012 with a thesis about the role of performance measurement systems in public network for service delivery.

Her current research interests are about the role of digital technologies in management accounting, with particular reference to management accounting in the cultural field.

The teaching experience of the candidate can be summarized as follows, distinguishing between the teaching activity in bachelor and master courses, PhD courses and post-graduate courses.

#### ***3.1 Teaching activity in bachelor and master courses at Politecnico di Milano***

Ongoing teaching activities

- A.Y. 2016/17. Coordinator and Lecturer of the course “Management Control Systems”, MSc in Energy Engineering
- A.Y. 2016/17 Assistant Lecturer of the course “Accounting Finance and Control”; MSc in Management Engineering

Past teaching activities

- A.Y. 2015/16. Coordinator and Lecturer of the course “Economia e Organizzazione Aziendale”, BSc in Biomedical Engineering
- A.Y. 2014/15. Coordinator and Lecturer of the course “Economia e Organizzazione Aziendale”, BSc in Computer Engineering
- A.Y. 2012/13 and A.A. 2013/14. Adjoint professor of the course “Economia e Organizzazione Aziendale”, BSc in Computer Engineering
- A.Y. 2011/12-2012/13. Assistant Lecturer of the course “Business Economics and Organizations”, MSc in Management Engineering
- A.Y. 2011/12-2012/13. Assistant Lecturer of the course “Management Control Systems”, MSc in Management Engineering
- A.Y. 2011/12-2012/13. Tutor of the course “Cross-Boundary Processes” (Lake Poli School), MSc in Management Engineering
- From A.Y. 2008/09 to A.Y. 2010/11. Assistant Lecturer of the course “Sistemi di Controllo di Gestione”, MSc in Management Engineering
- A.Y. 2011/12- 2012/13. Tutor of the course “Complex decision making in the public and private sphere”, Alta Scuola Politecnica

#### ***3.2 Teaching activity in PhD Courses at Politecnico di Milano***

- A.Y. 2016/2017 Lecturer in the PhD course “Case study and content analysis methodology” (by Prof. Michela Arnaboldi) at Scuola DRIG (Dottorato di Ricerca in Ingegneria Gestionale), Dipartimento di Ingegneria Gestionale
- A.Y. 2016/17 Lecturer in the PhD course “A multidisciplinary perspective on big data” (by Prof. Emanuele Della Valle), at Scuola di Dottorato

#### ***3.3. Teaching activity in Post-graduate courses at MIP – Business School of Politecnico di Milano***

Ongoing teaching activities

- 2009 – ongoing
  - **Master in Management delle Università e della Ricerca** (SUM) – Area IPA (Institution and Public Administration). Lecturer for the course “Pianificazione e Controllo”
- 2012 – ongoing

## Gianluca Spina Award for teaching excellence and innovation

- **International MBA Full Time**. Lecturer for the course “Performance measurement and management”
- **International MBA Part Time**. Lecturer for the course “Performance measurement and management”
- 2016 – ongoing
  - **Master in Performing Arts Management (MPAM)** - Area IPA (Institution and Public Administration). Lecturer for the course “Financial and Management accounting”
  - **Executive Master per il Management Pubblico e Federalismo** - Area IPA (Institution and Public Administration). Lecturer for the course “Pianificazione e controllo”
  - **Master in Energy Management (MEM)**. Lecturer for the course “Economia e finanza d’impresa”

### *Past teaching activities*

- 2016
  - Master in Business Analytics and Big Data (BABD). Lecturer for the course “Management Accounting”
  - Master in Gestione delle società bancarie (UBI Academy). Lecturer for the course “Management Accounting”
  - Short executive course for IPRASE (Istituto Provinciale per la Ricerca e Sperimentazione) school professors- Trento. Lecturer for the course “Contabilità analitica”
- 2014
  - Short executive course about “L’attuazione della legge anticorruzione nelle università” for the administrative staff of the Università Federico II di Napoli. Lecturer in “Tecniche di analisi e mappatura dei processi”
  - Short executive course “Mediolanum Brain Olympics” for Mediolanum employees. Lecturer in “Financial accounting”
- 2013
  - Executive course “PEGASO”. Lecturer in “Management Accounting”
  - Executive short course “Pianificazione e controllo per le università”. Lecturer in “Contabilità analitica”
- 2011
  - Master Telecom. Lecturer for the course “Business Innovation and ICT Management”