

# **OPERATIONAL GUIDELINES FOR COMPLETING EACH SECTION OF THE COURSE PROFILES**

(Quality Assurance Committee – March 2018<sup>1</sup>)

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<sup>1</sup> Guidelines updated in 2019 (according to Quality Assurance Committee decisions, 4 March 2019 meeting)

## Step 1 – Prerequisites

This section should not be completed by faculty members, as any formal preparatory courses will be indicated at a later date by the offices of the Academic Affairs Division.

Preparatory courses for courses offered in the 2019-2020 a.y. will be uploaded at a later date upon approval by the meetings of the School Councils in May 2019.

## Step 2 – Suggested background knowledge

This section, which is optional, may include the **recommended knowledge** (which students should possess) to attend the course successfully.

Any formal prerequisites, however, should not be included, as this will be added at a later date by the offices of the Academic Affairs Division in the appropriate section.

Please note that all forms of preliminary preparation or knowledge should be expressed as “**suggested**” and not “**required**” (this is because student possession of prerequisites cannot be verified before enrollment in the course)

### TIPS:

If you decide to include recommended prior knowledge, whether or not to indicate a textbook (recommended readings) or reference one or more areas of knowledge/topics important for successfully attending the course should be considered. However, **references to specific course codes should be avoided** (as students may have acquired prior knowledge outside Bocconi).

Focus should be placed on the **non-compulsory nature of the recommended knowledge**, including through the use of terms such as: advised, suggested, recommended, useful, etc. Conversely, the use of expressions such as the following should be avoided: necessary, required, essential, mandatory, etc.

### EXAMPLES:

1. *“To feel comfortable in this course students should be familiar with basic statistics.”*

2. *“To feel comfortable in this course, you should have good knowledge of simple linear algebra and probability theory, as well as programming in Python. Additional knowledge of data structures will make many of the assignments easier to solve.”*

3. *“In order to successfully follow this course, students should be familiar with basic microeconomic concepts such as budget sets, indifference curves, consumer and producer surplus, and marginal cost. They should also be at ease with simple mathematical tools such as derivatives and solution methods for linear equation systems.”*

## STEP 3 - MISSION

In this sub-section of the profile, a brief statement of **the importance of the topics covered in relation to the context and the evolution of knowledge** in the course’s subject area and its “**raison d’être**” should be indicated. This may be expressed in terms of the contribution it provides to the educational program (especially for compulsory courses).

### TIPS:

- Make sure to include two clearly identifiable parts (external context and actual mission)
- Include the key elements so that the text is not too long (approx. 1,000 characters with spaces)

## EXAMPLES:

1. *"The success of any firm depends on its capabilities to generate winning strategic ideas, to motivate its managers and employees to implement strategies, to redirect ineffective decisions and actions, and to create stakeholders' consensus. In these respects, performance measurement systems play a crucial role. On the one hand, through strategic planning, programming and budgeting, performance targets are set, coherently with strategic and organizational choices, and used to evaluate managers' accountability. On the other hand, reporting systems serve to communicate actual performance to both managers and stakeholders in a way that fosters learning from experience, enables redirecting ineffective behaviors and supports the generation of stakeholders' trust. Starting from such premises, **the mission of this course is to explore the role of performance measurement and control systems (PM&CS) in implementing strategy and supporting governance processes.**"*
2. *"In 2017, the 5 Global Financial Institutions ranked in the first five positions of the annual Dealogic League Tables advised about 4tn USD of M&A transactions, arranged 288bn USD equity capital market deals, helped customers place a record 1.1tn USD of Investment Grade bonds and an additional 1.4tn USD leveraged loans. Such figures indicate the relevance that Investment Banking services are playing in the context of financial and capital markets worldwide. The knowledge of which services are provided by these institutions and the understanding of the practice of business in the different products available to the different type of customers – corporate entities, financial institutions, governments/public entities and supranational bodies – are an essential part of the curriculum of a finance student. **The course mission is the analysis of the main investment banking business areas.** Every business is covered in terms of: asset valuation; deal pricing; deal structuring; processes followed during the transactions and roles played by the investment bank/financial advisor."*
3. *"Why are some countries rich while others are poor? Since the publication of the Wealth of Nations by Adam Smith, the sources of global inequality have always been a key subject in economics. As Robert Lucas Jr. has famously claimed, once we start thinking about them, 'it is hard to think about anything else'. This makes the study of economic growth and development over the long run relevant for economics and the social sciences alike. **The course of economic history introduces tools and methods of describing and analyzing growth and development and it helps students develop critical thinking by demonstrating both the potential and limitations of economic theory in explaining economic change in the real world.**"*

## Step 3 - Course Content Summary

The second section of the profile includes a **list of the main content covered during the course**, to be included schematically (using bullet points), with the aim of connecting the individual aspects to each macro-topic of reference, where possible.

### TIPS:

- This is not where a detailed list of individual topics covered during specific lectures should be included (which is required for the course syllabus).
- When selecting the macro-topics to include, make sure that they can be clearly connected to the intended learning outcomes listed in the next section.

### EXAMPLES:

1. *"The course focuses on specific topics related to the Triple Bottom Line and the Circular Economy paradigms, by linking sustainability concepts with the product life cycle, from its design, manufacturing, distribution and possible end-of-life recovery options. It is structured in 4 main modules:*
  - *Megatrends and Corporate Sustainability*
  - *Sustainable Operations and Supply Chain Management: a reference framework.*
  - *Triple Bottom Line and product Life Cycle: from product design to Closed-loop Supply Chain.*

- *Measuring KPIs in Sustainable Operations and Supply Chain Management.*"
2. *"The main topics of the course are:*
- *Historical introduction to the basics of protection of competition.*
  - *European regulation for the protection of competition and public enforcement.*
  - *European regulation and national regulations. The European network of authorities in charge of applying antitrust law.*
  - *Basic economic instruments: relevant markets and market power.*
  - *Prohibition of competition-restricting agreements.*
  - *Prohibition of abuse of dominant position.*
  - *The investigative, decisional and sanctioning powers of antitrust authorities.*
  - *Merger regulation: jurisdiction, assessment, solutions.*
  - *The protection of individuals influenced by competitively illicit conduct and private enforcement."*

#### STEP 4 - Intended Learning Outcomes

The Intended Learning Outcomes (ILOs for short) **describe what a student should know, understand and/or is able to do at the end of a given educational module** (or, in broader terms, after completing a learning process).

Writing clear ILOs is essential, as they are used to:

- Describe to students the expected knowledge and abilities at the end of an educational module.
- Indicate the level at which the expected learning process is placed.
- Provide a close connection between learning and its assessment.

ILOs must be organized according to the course's specific features.

For compulsory courses (compulsory courses of the study plan, including curriculum or chosen compulsory courses), ILOs should be adequately in line with the ILOs of the study program(s) to which they belong. For example, for the course "Applied Mathematics" (taught in all the "shared foundation" Bachelor of Science programs), ILOs should be specified that are in line with the following:

*"make use of basic mathematical-statistical methods and tools applying them to economic and financial problems and to the assessment and management of business activities"* this is included in all the shared foundation programs in the "shared education" area.

This is why, before writing the course's ILOs, faculty members are encouraged to read the ILOs for the study program(s) of reference, which can be consulted in the designated area of the form procedure.

The model adopted by Bocconi foresees that ILOs are divided into **only two categories**:

a. **KNOWLEDGE AND UNDERSTANDING**, which includes the concepts, principles and theories that represent the learning aspects "covered" by the course and that the student should achieve by the end of the course.

b. **APPLYING KNOWLEDGE AND UNDERSTANDING**, a category that refers to the actions and procedures regarding the concrete application of the knowledge imparted in order to approach the tasks and problems that occur in professional practice (i.e. what the student is expected to be able to "do" at the end of the course).

Applying knowledge and understanding may include aspects that are not strictly in line with the subjects covered but which regard transversal skills (soft-skills/behavioral skills) developed during the course such as, for example, teamwork, communication skills, etc. If deemed appropriate (and where applicable), reference can therefore be made to these skills when writing ILOs of this second type.

## How to Write Intended Learning Outcomes

In order for an intended learning outcome to be correctly constructed, it must include 3 sections:

1. a **VERB** that indicates the action with which the student must demonstrate the acquired learning (avoid using verbs that are too generic and vague, such as “understand” and “know” as they can be interpreted in various ways and do not allow clear recognition and a precise measurement of the level of learning requested);
2. the **OBJECT** of learning, which, combined with the verb, identifies “what” is expected the student will know or know how to do at the end of the course;
3. the **CONTEXT** in which the object of the learning is inserted, defining its extent and field of application (or the objective of the action requested).

## EXAMPLES OF ILO STRUCTURE:

(Verb).....(Object).....(Context)

1. *Identify ... the main products and services offered by investment banks..... to institutional and corporate clients.*
2. *Analyze..... the impact that Operations Management choices have... ....on the “Triple Bottom Line.”*

When choosing the appropriate verbs to use, it is always good to keep in mind the level of “cognitive complexity” (or performance level) required by the student in relation to the content and type of course taught. In other words, **it should be asked whether the student is required to remember and recognize specific content or know how to analyze it, apply it, assess it, redefine it, etc.**

In this regard, it may be useful (and easier) to refer to specific taxonomies that have been prepared to schematically classify the so-called “domains” of learning by following a hierarchy (which goes from the most simple to the most complex functions). The table below includes a summary of some of the most common and widely used taxonomies that may be used as a reference for choosing the desired cognitive level, and, as a result, the action verb most suitable for writing a specific ILO.

Examples of Action Verbs to Use When Writing Intended Learning Outcomes	
<b>Cognitive/performance level</b> Simple ⇒ Complex	<b>A. Knowledge and Understanding</b> Define, Describe, Identify, Recognize, List, Assert, Express, Illustrate, Explain, Summarize, Reproduce, Discern, Defend, Estimate, Select
	<b>B. Applying Knowledge and Understanding</b> Apply, Solve, Demonstrate, Choose, Use, Interpret, Connect Analyze, Compare, Calculate, Examine Assess, Justify, Argue, Predict, Evaluate, Discuss Elaborate, Develop, Speculate, Organize, Plan, Prepare, Compose, Simulate, Formulate

## Useful Instructions for Writing Intended Learning Outcomes

When writing intended learning outcomes, the following instructions should be kept in mind:

- Generally, **basic Bachelor of Science courses tend to have a predominance of type A ILOs (“Knowledge and Understanding”) compared to type B ILOs**, while Master of Science courses have more balance and may have a predominance of type B ILOs (“Applying Knowledge and Understanding”).
- **Formulate sentences that are as concise as possible, using clear and comprehensible language** that considers the student’s perspective (to this end, it may be useful to ask a colleague or a third party to read the sentences in order to check whether they are easily and immediately comprehensible).
- Avoid writing descriptions that are too generic, or, vice versa, too specific.

- **Select only one verb for each ILO** and avoid, as much as possible, using the same verb for more than one ILO.
- **Make sure the outcomes are described so that they reflect the level of learning requested** for the specific content/"object" they refer to (see appropriate choice of action verbs).
- **Make sure the outcomes are written so that they can be adequately observed and measured** (through the assessment methods set out, which must verify whether the student has achieved each of the intended outcomes). In this sense, remember that each ILO needs to be able to be verified with a specific assessment method.
- **Identify and include only the most important intended learning outcomes** (each course must generally have between 3 and 6 for each category) and avoid placing too many definitions in the content of a single ILO.
- **For compulsory courses in a study program**, verify that the ILOs can be categorized within the learning outcomes for the subject area of reference included in the study program(s) that the course belongs to.

**EXAMPLES:**

A. **Knowledge and Understanding:**

*After successful completion of this course, students will be able to:*

- *Explain the economic models on strategic interaction of firms in oligopolistic markets and describe their main insights regarding the determinants of market power and of market structure.*
- *Discuss the role of anti-trust intervention in oligopolistic markets and the principles of competition policy.*
- *Identify the trade-offs that firms face in designing incentive schemes, as well as in the choice of centralization.*
- *Explain the relationship between organizational choices and firms' behaviour in the product market.*

B. **Applying Knowledge and Understanding:**

*After successful completion of this course, students will be able to:*

- *Perform an industry profitability analysis based on the intensity of rivalry and the threat of entry.*
- *Choose the appropriate model to assess the effect of various business practices and of various forms of policy intervention on the strength of competition.*
- *Apply the appropriate tools to solve static and dynamic games of oligopolistic competition as well as to find the optimal business practice/organizational choice.*
- *Interpret the empirical evidence on the effects of changes in firms' compensation schemes as well as of changes in the organizational design.*
- *Evaluate the strategic effects and the welfare effects of a merger episode.*
- *Interact in a constructive way and think critically*

A. **Knowledge and Understanding:**

*After successful completion of this course, students will be able to:*

- *recognize appropriate models to solve business and management problems;*
- *identify the correct methodology for solving business and management problems;*
- *discern between deterministic and non-deterministic models.*

B. **Applying Knowledge and Understanding:**

*After successful completion of this course, students will be able to:*

- *organize information to build a quantitative model in line with the theories posed;*
- *translate a decision problem into a corresponding quantitative model;*
- *use the software Excel (Solver), TreePlan, R in order to determine solutions to a problem;*
- *interpret solutions derived from implementing the chosen model in order to make optimal decisions;*

- *analyze models with sensitivity analysis tools to obtain "managerial insights".*

## STEP 5 - Teaching methods

This section of the course profile is divided into two parts:

- Guided selection part**, where one or more teaching methods used in the course can be selected from a default list (which includes the main methods used at Bocconi, grouped into macro-categories).
- Open descriptive part**, where, for each type selected (not including face-to-face lectures, using the traditional style), a short description of **what it is, why it is useful and how it is developed** in the course is provided, potentially along with **what the student is required to do** (e.g. interaction, discussion, etc.).

### EXAMPLES:

- The learning experience of this course includes, in addition to **face-to-face lectures**, the solution in class of Problem Sets assigned to students throughout the course. Those **exercises** will allow students to apply the analytical tools illustrated during the course and to solve models of oligopolistic competition as well as to find optimal incentive schemes and organizational design. Moreover **stylized cases** will be proposed to students and **discussed in class** with the purpose of applying the models explained during the course to make the competitive assessment of a given market, to evaluate the effects of a given organizational change/ business practice or the implications of a given policy action. **Students will be encouraged to bring their own views and to share their insights.***
- In addition to one-on-one lectures, **the course includes one or more guest speakers** by attorneys and officials from antitrust authorities aimed at better understanding how antitrust law is applied, the risks and opportunities for businesses, as well as general antitrust consulting and defense activities. **Hypothetical cases will also be analyzed in class.** Focusing on a business's conduct or behavior, possible antitrust problems and conditions under which such conduct may be considered prohibited or on the other hand allowed – potentially as a result of taking on commitments or imposing remedies to influence the behavior of the business – will be identified. **At the end of each of the course's main section, drills to solve theoretical exercises** and practical cases will be provided. Students will also be assigned decisions and sentences that must be examined and summarized based on the indications provided by the faculty member. The most significant, controversial or innovative aspects must be then presented and discussed in class.*

## STEP 6 - Assessment methods

In an analogous and symmetrical manner, this section is also divided into two parts:

- Guided selection part**, in which **one or more methods actually applied to verify learning outcomes acquired by students can be selected from a default list** (which includes the main methods used at Bocconi, grouped into macro-categories). What type of test is involved should be indicated for each method (i.e. if it is a midterm assessment, partial exam or general exam – whether the only exam or an end-of-course exam). **Please note:** the table should be completed only for methods for attending students (for non-attending students, appropriate indications should be provided in the descriptive part, in cases in which there is a difference compared to the methods for attending students).
- Open descriptive part**, in which **how it allows (or contributes to) verifying that the student has achieved the anticipated outcomes in terms of knowledge, skills and abilities** should be specified for each method selected. In this section, **the criteria with which the final grade (exam grade) is determined needs to be**

**indicated**, specifying the percentage weight assigned to each evaluation method or test, where applicable.

**TIPS:**

- In this section it is not required to specify how the exam is structured or the exam's specific content (e.g. number and formulation of multiple-choice questions on a written exam; topic of the assignment or case), but only the type of exam, specifying how it is related to intended learning outcomes (see table below). More detailed aspects will be included in the syllabus.
- **Please note** that each Intended Learning Outcome needs to be able to be measured/verified through the assessment methods selected. To this end, always makes sure there is an adequate correspondence between the methods used and the intended outcomes.

The table that follows includes an example of the correct process for writing sentences aimed at describing how and to what extend the assessment methods used allow intended learning outcomes to be verified (as defined and listed in section 2 of the profile).

**Correspondence Between Assessment Methods ("HOW") and Intended Learning Outcomes to Verify ("WHAT")**

Assessment Method	What it entails*	What it verifies (which ILO(s) listed in section 2)
Written exam with open-ended questions	Substantiated answers provided for specific questions; Solving/demonstrating problems; .....	Ability to describe (key concepts regarding....; theoretical models...); Ability to identify/summarize the main features of....; Ability to solve/demonstrate/calculate.....
Written exam with closed-ended questions	Answers provided for a series of "multiple choice" questions	Ability to recognize basic knowledge and concepts regarding....
Individual oral exam	Answers and/or explanations provided for specific questions	Ability to describe/explain (key concepts regarding....; theoretical models...); Ability to summarize the main features of....; Ability to orally express/communicate clearly and using appropriate language
Assessment of the outcome of an individual assignment	Preparation of a short report (max. 10,000 words) on a business case discussed in class	Ability to correctly analyze/interpret important issues behind decisions for.... ; ability to examine/evaluate the implications of....; ability to express/debate/communicate in written form clearly and using appropriate language
Assessment of presentation of an individual assignment	Preparation and description of a presentation (consisting of a maximum of 8 Power Point slides) that summarizes the important points and conclusions of an individual report	Ability to summarize/communicate concisely the results of the work completed; ability to argue and defend one's ideas and conclusions reached; ability to speak in public; .....
Assessment of the outcome of a group assignment	Preparation of a business plan for a startup project	Ability to identify and examine the main problems regarding the launch process and development of a business, ability to develop the analyses needed to create an effective business plan (analysis of the market, clients, competition), ability to prepare a development plan and draft/simulate the related economic and



Assessment Method	What it entails*	What it verifies (which ILO(s) listed in section 2)
		financial projections; .....; ability to organize and manage a project within a team.
Assessment of presentation of a group assignment	Preparation and description of a presentation (consisting of a maximum of 10 Power Point slides) that summarizes the important points of the business plan prepared	Ability to summarize/communicate concisely the results of the work completed; ability to argue and defend one's ideas and conclusions reached; ability to speak in public; .....
Class participation	Speaking in class, contribution provided to discussions	Ability to actively participate in discussions in class (or within groups that have been created), as well as in interactive activities (e.g. online forums); ability to generate original contributions and ideas, .....
Peer evaluation	Assessment of the contribution provided by each participant within a work group.	Ability to effectively interact within a team, ability to provide a valid and constructive contribution to the work requested, ability to negotiate, ability to persuade, ....

#### **EXAMPLES:**

1.

##### **Attending students:**

*With the purpose of measuring the acquisition of the above-mentioned learning outcomes, the students' assessment is based on two main components:*

1. *In-class participation (20% of the final grade) aimed to test the students' ability to interact in a constructive way and to think critically.*
2. *Written exam (80% of the final grade), consisting of exercises and open questions aimed to assess students' ability to apply the analytical tools illustrated during the course, to solve and explain models of oligopolistic competition as well as to find optimal incentive schemes and organizational design. The exam will also include short statements to discuss, aimed to assess students' ability to articulate economic reasoning and to evaluate the potential effects of a given business practice/policy action and the trade-offs involved in a given organizational choice. Students can take a mid-term written exam and complete the written exam at the end of the course. In this case the weight is: 40% for the mid-term exam and 40% for the end of term exam. Alternatively, students can take a final written exam that accounts for 80% of the final grade.*

##### **Not-attending students:**

*Students' assessment will be based on the written exam (either two partial exams or one final written exam with the same content and weight distribution of those applied to attending students).*

2.

##### **Attending students:**

*Assessment methods are based on two elements:*

*Field project: 40%*

*Final exam: 60%*

*The field project consists of developing an innovative project to carry out a concept at the distribution level. The project must involve several areas of innovation. These areas will be presented in detail at the launch of the competition along with the assessment criteria. The best projects completed within the course will be able to access the international competition. These will then be assessed by a panel of distribution managers and experts,*

who will select a winner for each of five innovation categories. The best projects from the international competition will be awarded during a special event and then published on GDO Week, a specialist journal in the distribution sector. These projects will be used to verify the ability of students to apply the knowledge developed during the course (2a) and assess the ability to complete the retail innovation project (2b) and how to present it effectively. At their discretion, individual groups may request to integrate the faculty assessment with a peer evaluation (optional).

The exam will be held in written form. It will be made up of several short business cases, which must be solved by students, in addition to several open-ended and multiple-choice questions referring to the concepts, models and cases discussed in class. The business cases are used to assess the ability to apply the knowledge students learn during the course. The open-ended and multiple-choice questions are mainly aimed at verifying learning of the analytical and management abilities and their correct comprehension.

**Not-attending students:**

The assessment method for non-attending students is based on a final exam in written form. It will be made up of several short business cases, in addition to several open-ended and multiple-choice questions referring to the concepts, models and cases contained in the textbooks and exam materials. The open-ended and multiple-choice questions are mainly aimed at verifying learning of the analytical and management abilities and their correct comprehension. The business cases are used to assess the ability to apply the knowledge students learned when studying the course material.

## STEP 7 - Teaching materials

In this last section of the profile, the **reference bibliography** should be included, distinguishing (where possible) between the bibliography suggested for attending students and non-attending students, as well as an indication of **multimedia materials** that students should acquire to successfully attend the course.

**TIPS:**

- Specify only the textbooks and other materials established at the time the profile is being written. For textbooks that have not yet been defined or updated (e.g. in print), it should be indicated that other teaching materials will be announced before the start of the course and indicated or uploaded to the Bboard platform.

**EXAMPLES:**

*Attending students:*

- Belvedere V., Grando A. (2017), *Sustainable Operations and Supply Chain Management*, Wiley & Sons.
- Case-studies discussed in class and uploaded on the Blackboard platform.

*Not-attending students:*

- Belvedere V., Grando A. (2017), *Sustainable Operations and Supply Chain Management*, Wiley & Sons.