#### Management Department

**Higher School of Economics**

**Nizhniy Novgorod, Russia**

#### Course Outline

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| ***Economics and Accounting in The Lean Management*** |

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**Course Summary**

This is a 1 year Master Program “Lean - Management” course, 3 ECTS (credits) and 4 hours per week.

Course Prerequisites: Financial Accounting, Management Accounting, Lean - Management.

Course Layout: the course will consist of lectures and workshops, also case studies, home work writing and presentations on projects will be included in the course.

**New to This Course and Added Value for Students**

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| This innovative course focuses on a role of Economics and Accounting in Lean - management. Most companies introducing Lean thinking realize that their finance and control systems are very wasteful and ineffective. They want to have practical methods to control the business, without the hugely wasteful, time-consuming, and misleading costing and measurement systems. At once companies begin their Lean transformation and have mapped their value streams, implemented cells, and started getting their production to flow; they want to know how to sustain these efforts.  Questions arise such as   * What sorts of performance measures can be used in place of the current measures those seem to work against the Lean improvements? * Are there costing approaches that are Lean themselves? * How do we understand the financial benefits of our Lean efforts?   The goal of the course is to give students an understanding that Lean Accounting is a new method of managing a business that is built on Lean principles and Lean methods. Lean Accounting is a great deal more than just Lean thinking applied to the accounting systems. It is the management framework of a Lean organization.  Some key guidelines are consistent themes throughout the course: Maturity Path of the implementation Lean - accounting in the organizations, new set of efficiency measurements in the Lean – management and Value stream costing.  This course is supported by last editions of books, which hasn’t translated into Russian yet.  Recommended books for basic reading spread in Europeans and American Universities. Therefore, this course is useful for English-speaking students from differentcountries.  Final assessment of this course fits Learning Management System (LMS). |

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| **Topics Covered** | **Hours** |
| **Topic 1. Why Is Lean Accounting Important?** | 8 |
| **Topic 2. Maturity Path to Lean Accounting** | 4 |
| **Topic 3. Cell Performance Measurements** | 8 |
| **Topic 4. Financial Benefits of Lean Manufacturing** | 8 |
| **Topic 5. Lean Financial Accounting** | 8 |
| **Topic 6. Managing by Value Stream** | 8 |
| **Topic 7. Calculating Product Costs—Features and Characteristics** | 8 |
| **Topic 8. Eliminating More Wasteful Transactions** | 8 |
| **Total** | 60 |

**Outline of Overall** **Course Structure**

**Topic 1. Why Is Lean Accounting Important?**

**Learning Objectives:**

1. How Standard Costing Can Drive Wrong Behavior
2. The Financial Impact Of Lean Improvements.
3. The Better Way To Understand Product Costs.
4. How To Eliminate Waste From Accounting Processes And Systems.
5. Better Ways Of Making Decisions.
6. How To Focus Business Around Customer Value.

**Notes:** Topic 1 is an important introductory topic. This topic demonstrates that serious problems crop up when companies that adopt lean manufacturing use traditional cost accounting. Then this topic introduces the accounting methods that support the new lean - manufacturing.

There are both positive and negative reasons why Lean Accounting is important.

**Topic 2. Maturity Path to Lean Accounting**

**Learning Objectives:**

1. Introduction And Getting Started With Lean Accounting In Pilot Lean Production Cells
2. Lean Accounting And Managing By Value Stream
3. Lean Accounting In The Lean Enterprise.

**Notes:** This short topic makes the point about the need for accounting change to happen in parallel with the rest of the enterprise. It describes three stages of lean maturity: beginning, widespread adoption, fully lean enterprise. It also outlines accounting changes recommended for each stage, and directs the managers to lean – thinking way.

**Topic 3. Cell Performance Measurements**

**Learning Objectives:**

1. Day-by-the-Hour measurement
2. First Time Through measurement
3. WIP-to-SWIP measurement
4. Operational Equipment Effectiveness measurement

**Notes:** This topic presents the starter set of cell measures which should be developed from the company’s business strategy. There are only a few key measures. This allows managers to focus on what is most important and reduces the time spent gathering and reporting data.

**Topic 4. Financial Benefits of Lean Manufacturing**

**Learning Objectives:**

1. Creating the Box Score
2. Managing Capacity
3. Making Money from Lean Manufacturing

**Notes:** This topic presents the lean box score as an answer to the problem of the lag between operating improvements and their translation into improved financial performance, especially as reported in GAAP financial statements. The key point to emphasize with students is the difference between period two (future state) actual expenditures for materials and conversions costs and the amounts that appear in cost of goods sold is due to the inventory reduction being flushed through the income statement.

**Topic 5. Lean Financial Accounting**

**Learning Objectives:**

1. A New Perspective on Internal Accounting Control.
2. Eliminating Waste From The Financial Accounting Processes
3. The General Ledger and Month-End Close Process in the Lean Accounting.

**Notes:** This topic emphasizes the need to eliminate wasteful transactions, with an emphasis on what can be done early in the lean transformation process are a primary financial planning tool used by businesses and other organizations. The topic explains that the wasteful transaction records providing financial control cannot be eliminated until replacement controls as good or better than the financial controls are in place.

**Topic 6. Managing by Value Stream**

**Learning Objectives:**

1. Different Kinds Of Value Stream
2. Why Do We Focus On Value Streams?
3. Why Should We Manage The Business Through The Value Streams?
4. Continuous Improvement Of Value Stream
5. The Maturity Path To Lean Value Stream Organization

**Notes:** This topic defines the value stream, makes the case for organizing and managing by value stream, and then describes the mechanics of identifying value streams and assigning costs and resources to value streams.

**Topic 7. Calculating Product Costs—Features and Characteristics**

**Learning Objectives:**

1. What Drives Cost In A Lean Value Stream?
2. Calculate The Average Product Cost For The Value Stream.
3. Analyze Available Capacity.
4. Identify The Primary Bottleneck And Pacemaker Within The Value Stream.
5. Identify How Product Features And Characteristics Affect Use Of The Bottleneck.
6. Calculate Conversion Costs Using Product Features And Characteristics' Effects.
7. Calculate Material Costs.
8. Identify Other Significant Product Features Affecting Use Of The Bottleneck Resource.

**Notes:** Topic describes creating a costing model or cost table **i**n lean - management, where we assume that most costs other than the cost of direct materials are costs of creating capacity in the value stream. The overall conversion cost of the value stream is largely fixed. The conversion cost per unit of output depends on flow through the value stream. The bottleneck process determines flow through the value stream. The bottleneck process paces the flow in the value stream because the overall rate of production cannot exceed the rate of the slowest process. Product (or service) features and characteristics that cause products to spend more or less time in the bottleneck process are flow drivers and consequently, cost drivers.

**Topic 8. Eliminating More Wasteful Transactions**

**Learning Objectives:**

1. Describing the Lean Manufacturing Maturity Path
2. Assessing Lean Manufacturing Progress
3. What Transactions and Systems Can Be Eliminated?
4. Developing an Action Plan

**Notes:** This topic offers to students the case “Elimination More Wasteful Transactions”.

The Transaction Elimination Maturity Path Table enables the Lean Accounting team to develop an action plan for the elimination of transactions. The team draws a table that shows the steps in the lean manufacturing maturity path. They then add to this table the major transaction elimination methods that can be applied at each stage of the maturity path. The team can then develop a detailed action plan showing how the changes are made and the transactions eliminated.

**Assessment output**

* Final assessment — exam (test)
* Grading requirements — 50% - Final test, 25% - midterm test, 25% - project (homework).

**QUIZ (pattern)**

Chapter 1: Why is Lean accounting Important?

1. Compared to conventional accounting lean accounting …

1. links performance measurement to use of direct labor.
2. adds transactions for better information and control.
3. emphasizes meeting short-term budget targets.
4. provides information for better lean decision making.

2. Traditional standard cost-based performance measurement and reporting systems used at most manufacturing companies …

1. motivate people to use non-lean procedures.
2. eliminate wasteful transactions and simplify reporting.
3. link performance measures directly to the drivers of value creation.
4. are based on principles and assumptions of lean management and lean production.

3. Lean accounting ...

1. focuses on individual product costs.
2. does not attempt to measure the financial impact of lean improvements.
3. uses traditional performance measures.
4. provides a way to focus the business on value created for customers.

4. Garden Gnomes are produced in a lean production cell that has three processes: Molding, Curing, and Painting. Molding requires 5 minutes per gnome, Curing requires 7 minutes per Gnome, and Painting requires 8 minutes per Gnome. The maximum number of gnomes that can be produced by this cell in an hour is …

1. 3
2. 7.5
3. 9
4. 12

5. Garden Gnomes are produced in a lean production cell that has three processes: Molding, Curing, and Painting. Molding requires 5 minutes per gnome, Curing requires 7 minutes per Gnome, and Painting requires 8 minutes per Gnome. Direct labor time equals processing time in each process. Each gnome uses $5 worth of plastic resin (direct materials). The standard cost for direct labor is $18 per direct labor hour and the standard rate for overhead is $30 per direct labor hour. The actual conversion costs associated with running the lean production cell are $108 per hour. The total standard cost of a gnome is …

1. $ 11.40
2. $ 21.00
3. $ 23.00
4. $ 53.00

6. Garden Gnomes are produced in a lean production cell that has three processes: Molding, Curing, and Painting. Molding requires 5 minutes per gnome, Curing requires 7 minutes per Gnome, and Painting requires 8 minutes per Gnome. Direct labor time equals processing time in each process. Each gnome uses $5 worth of plastic resin (direct materials). The standard cost for direct labor is $18 per direct labor hour and the standard rate for overhead is $30 per direct labor hour. The actual conversion costs associated with running the lean production cell are $108 per hour. If the cell is running at full capacity, the “real” lean total production cost per Gnome …

1. $ 14.40
2. $ 17.00
3. $ 19.40
4. $ 36.00

7. \_\_\_\_\_\_\_\_\_\_\_\_\_\_ provide(s) accurate and useful cost information for decision making.

1. Absorption costing.
2. Budgeted product costs.
3. Lean accounting.
4. Standard costing.

8. Which of the following is a flaw associated with traditional accounting performance measures?

1. Traditional measures are reported too frequently. Often they are reported on a monthly basis.
2. Traditional measures are primarily operational measures, ignoring the financial consequences of operating performance.
3. Traditional measures are too complex. Operators and managers cannot effectively use what they do not understand.
4. A, B, and C are all flaws associated with traditional accounting performance measures.

9. Why do conventional accounting systems rely on detailed tracking of transactions to maintain operational control?

1. Transaction-based control is required by the Sarbanes-Oxley Act.
2. It is a way to impose control on operating process that are essentially out-of-control. processes.
3. It is the most efficient and effective way to achieve financial and operational control.
4. It is the only way to achieve control in computerized systems.

10. Lean accounting supports lean decision-making by providing information on how alternative courses of action affect …

1. direct labor costs and machine utilization.
2. gross profit margins and standard costs of individual products.
3. flow through the value stream and contribution to value stream profitability.
4. profitability by individual customer and overall earnings per share.

11. To support lean thinking, lean accounting organizes and reports financial results at the level of the …

1. value stream.
2. individual product or service.
3. individual customer.
4. functional area or department.

Chapter 2: Maturity Path to Lean accounting

1. Stable operating processes with visual signals to maintain operating control ...

1. are common in traditional accounting and reporting systems.
2. must be documented by recording transactions and monitoring costs.
3. are usually achieved by using budget-based performance measurements and incentives.
4. eliminate the need for many transaction records and detailed cost monitoring.

2. Which of the following is an attribute associated with a manufacturing company at the pilot stage that has not yet achieved a widespread lean transformation?

1. Extensive use of visual systems and manufacturing in cells throughout the plant.
2. Extensive employee training in lean principles and some successful lean cells in place.
3. Manufacturing is managed by value stream, but cooperation with customers, partners, and suppliers just beginning.
4. The company is organized by value stream and continuous improvement has become a way of life.

3. Which of the following is an attribute associated with a manufacturing company at the lean enterprise stage of a lean transformation that is not characteristic of an earlier stage of maturity?

1. Extensive use of visual systems and manufacturing in cells throughout the plant.
2. Extensive employee training in lean principles and some successful lean cells in place.
3. Manufacturing is managed by value stream, but cooperation with customers, partners, and suppliers just beginning.
4. The company is organized by value stream and continuous improvement has become a way of life.

4. The earliest stage at which lean performance measurements are usually established in the production cells is …

1. before the lean transformation begins in production.
2. the ”lean enterprise” stage, when lean thinking and a continuous improvement culture has spread throughout the organization.
3. the “manage by value stream” stage, when lean production (manufacturing) is widespread.
4. at the pilot stage, when the lean transformation begins in production.

5. The earliest stage at which features and characteristics costing is usually used when individual product costs are required is …

1. before the lean transformation begins in production.
2. the ”lean enterprise” stage, when lean thinking and a continuous improvement culture has spread throughout the organization.
3. the “manage by value stream” stage, when lean production (manufacturing) is widespread.
4. at the pilot stage, when the lean transformation begins in production.

6. Variance reports and other traditional measures …

1. can be eliminated at the pilot stage, when the lean transformation begins in production.
2. should be kept until the ”lean enterprise” stage, when lean thinking and a continuous improvement culture has spread throughout the organization.
3. should be kept until the “manage by value stream” stage, when lean production (manufacturing) is widespread.
4. should be retained for comparative purposes through all stages of the lean transformation.

7. Value stream performance measurements and value stream cost information should be used to drive continuous improvement throughout the organization ...

1. before the lean transformation begins in production.
2. as soon as the organization is at the pilot stage, when the lean transformation begins in production.
3. when the organization reaches the “manage by value stream” stage, when lean production (manufacturing) is widespread.
4. only when the organization reaches the ”lean enterprise” stage, when lean thinking and a continuous improvement culture has spread throughout the organization.

8. An organization can be described as a lean enterprise when …

1. a few pilot lean cells are in place and most employees have received training in lean principles.
2. a consultant is hired to help implement 5S (workplace organization) and a product or product family is selected for a lean pilot project.
3. most production occurs in lean cells using lean methods, and continuous improvement teams have been trained and established.
4. continuous improvement has become a way of life and there is extensive cooperation with customers, suppliers, and partners.

9. An organization can be described as reaching the managing by value stream maturity stage when …

1. a few pilot lean cells are in place and most employees have received training in lean principles.
2. a consultant is hired to help implement 5S (workplace organization) and a product or product family is selected for a lean pilot project.
3. most production occurs in lean cells using lean methods, and continuous improvement teams have been trained and established.
4. continuous improvement has become a way of life and there is extensive cooperation with customers, suppliers, and partners.

10. Which of the following statements about target costing is **true**?

1. Target costing begins with an understanding of product specifications and supplier costs.
2. Target costing applies lean thinking to product, service, and process design.
3. Target costing is primarily used to extract price concessions from suppliers.
4. Target costing computes the budget or standard cost “target” for a product or service.

11. Which of the following statements about the lean accounting maturity path is **true**?

1. The maturity path recognizes that many lean accounting changes are not likely to be successful until production processes have been transformed.
2. The maturity path is the same for all organizations. Lean accounting changes or techniques should never be adopted earlier or later than is suggested.
3. Production’s needs for support from accounting do not vary with stage of maturity, the only issue is whether or not the lean accounting techniques or changes are possible at a given stage of maturity for lean production.
4. Lean accounting techniques or changes are possible at any given stage of production maturity, but production’s needs for support from accounting vary with stage of maturity.

**Basic Reading**

Brian Maskel, Bruce Baggaley, Larry Grasso. Practical Lean Accounting A Proven System for Measuring and Managing the Lean Enterprise, 2/E, CRC Press Taylor & Francis Group. © 2011 by Brian Maskell and Bruce Baggaley

**Supplementary Reading**

1. Financial & Managerial Accounting: International Edition, 3/E Charles T. Horngren, Walter T. Harrison Jr., M. Suzanne Oliver. © 2011 by Prentice-Hall, Inc.
2. Маскелл Б., Багтали Б. Практика бережливого учета: управленческий, финансовый учет и система отчетности на бережливых предприятиях. / Пер. с англ. — М.: Институт комплексных стратегических исследований, 2010. – 384 с.
3. Соломон Д.М. Учет по системе Лин. Как согласовать работу финансовой службы и производства / Джерольд М. Соломон; Пер. с англ. - М.: «Вершина», 2007. - 256 с.

**Internet links**

<http://www.bettermanagement.com>

www.apics.org

www.manufacturing.net

<http://www.leanaccountingsummit.com>

**Supplementary Materials and Equipment**

**PowerPoints presentation and LCD projector** are useful Supplementary Materials and Equipment in class.

This equipment allows instructors to offer a more interactive presentation that uses colorful graphics, voutlines of chapter material, additional examples, video and graphical explanations of difficult topics. Some slides also have hid den spreadsheets that will allow instructors to do what-if analyses for the situation being discussed in the slide. Students may print out of all of the slides along with additional space for taking notes.

**Topic 2. PowerPoints slides (pattern)**



