

Strategic Planning for engineering Course Syllabus

August – December 2026

Luis Nevares R.

VII Cycle

I. General course information

Course name:	Strategic planning for engineering		
Requirements:	110 approved credits. Production Planning and Control. Finance for Engineering I.	Code:	18944
Precedent:	Does not have	Semester:	2026-2
Credits:	3	Cycle:	7th
Weekly hours:	3	Lectures:	Mandatory attendance on campus
Course options:	Mandatory	Course coordinator:	Prof. Julio Quispe Salguero jquispe@esan.edu.pe

II. Summary

This course is primarily designed to provide students with the tools and knowledge necessary to develop strategic planning skills applicable to the field of engineering. Through an interdisciplinary approach, it addresses concepts, techniques, and best practices related to the formulation, implementation, and evaluation of effective strategies for engineering projects and organizations.

Key topics include analysis of the business environment, identification of competitive advantages, definition of strategic objectives, data-driven strategic decision-making, change management, and measurement of strategic performance. The course emphasizes the importance of innovation, sustainability, and adaptability within the context of strategic planning.

III. Course objectives

The course is designed to enable students to understand strategic management as practiced in modern organizations and companies, and to learn the necessary tools for its application. Special emphasis is placed on the implementation and evaluation of strategic plans, with the goal of making this course immediately applicable to students' future professional experiences.

Additionally, the course fosters the development of key soft skills, including communication, idea presentation and exposition, leadership, teamwork, critical thinking, problem-solving, decision-making, and report preparation.

IV. Learning outcomes

Upon completion of the course, the student will:

- Describe the strategic management process, related models, and their benefits.
- Explain the role and components of mission and vision statements and draft them effectively.
- Accurately assess the external business environment.
- Recognize the importance of organizational culture and understand how to manage it.
- Perform financial analyses related to strategic planning.
- Evaluate the company's internal environment.
- Conduct strategic analyses using matrices.
- Identify challenges in strategy implementation and understand the influence of organizational culture.
- Explain the key difficulties in implementing strategies.
- Relate strategic planning to marketing and financial statements, including projections.
- Monitor and evaluate the implementation of strategies.
- Adopt ethical business values.
- Understand the differences and requirements for developing markets abroad.
- Comprehend the internationalization process of companies for market expansion.
- Recognize the role of artificial intelligence in strategic planning.

V. Methodology

The course encourages professor-student interaction to support knowledge transfer. This interaction requires active student participation, including providing feedback on the theory presented and applying it to cases they are familiar with or that are widely recognized within the business environment.

Students will be required to solve business cases individually and/or in groups, and to deliver presentations during class sessions. The professor will provide immediate feedback in class as part of the learning approach; students will compare perspectives and work toward valid conclusions by analyzing real-life business situations. Students must present individually or in groups the workshops on the cases analyzed during the academic semester.

In addition, the students must present at an exhibition an individual final report based on the workshops, following the guidelines provided in the "Individual Final Report Guide."

The professor will serve as a facilitator and/or consultant. Students will be encouraged to critically analyze the applicability of the theoretical concepts and models to real-world business scenarios. Materials from various companies in the sectors - such as annual reports and financial statements - could be reviewed, along with news from specialized media outlets. Emphasis will be placed on group work in case studies and workshops, with mandatory class attendance and reading assessments.

Workshops must be uploaded to the virtual classroom on the date and time specified by the course instructor. The instructor may request a copy at the conclusion of the workshop during class or later.

VI. Grade assignment

The assessment system is continuous. The course grade is obtained by averaging the permanent evaluation.

The permanent evaluation is the weighted average of the following assessments: Reading comprehension tests / Graded practicals / Case studies / Workshops / Individual final report exhibition/ Presentations / Class participation / Attendance, punctuality, and attitude. The average of these grades provides the corresponding grade. Attendance and punctuality will follow University rules.

The permanent evaluation (PE) is described in the following table:

PERMANENT EVALUATION (PE)		
Assessment	Description	Weighting within the PE grade %
Initial test	Initial evaluation of the student at the beginning of the course	0 %
Graded practicals	Three, with questions about the course text material (none is cancelled)	30 %
Workshops	Seven workshops (none can be cancelled)	30 %
Presentation	Final presentation of the workshops	30 %
Other activities	Attendance, punctuality, class participation, random assessments, reading comprehension tests, classroom activities.	10 %
Total		100 %

VII. Scheduled course content

WEEK	CONTENT	ACTIVITIES / EVALUACIÓN
LEARNING UNIT I: OVERVIEW OF STRATEGIC MANAGEMENT LEARNING OUTCOMES: Describe the strategic management process and models, along with their benefits.		

1° From aug 17 to 23	THE NATURE OF STRATEGIC MANAGEMENT 1.1 What is Strategic Management? 1.2 Defining Strategic Management 1.3 Stages of Strategic Management 1.4 Integrating Intuition and analysis 1.5 Adapting to change 1.6 Key terms in Strategic Management 1.7 Competitive advantage 1.8 Strategists 1.9 Vision and Mission Statements 1.10 External Opportunities and threats 1.11 Internal Strengths and weaknesses 1.12 Long-Term Objectives 1.13 Strategies 1.14 Annual Objectives 1.15 Policies 1.16 The Strategic – Management model 1.17 Benefits of Strategic Management 1.18 Financial Benefits 1.19 Non - financial benefits 1.20 Why some firms do no strategic planning 1.21 Pitfalls in Strategic Planning 1.22 Guidelines for Effective Strategic Management 1.23 Comparing business and Military Strategy	Presentation of the Course Methodology Group formation Review of the workshop guide (Workshop development) https://apastyle.apa.org/style-grammar-guidelines
	David, Fred R., David, Forest R. (2017) Strategic Management essentials (pp.39-54) In <i>Strategic Management concepts and cases</i> (15th.ed) Global Ed. Pearson	

LEARNING UNIT II: VISION AND MISSION ANALYSIS

LEARNING OUTCOMES:

- Discuss how clear vision and mission statements can benefit other strategic- management activities.
- Write good vision and mission statements.

2° From aug 24 to 30	2.1 What Do we want to become? 2.2 What is our business? 2.3 Mission versus Mission 2.4 Vision statement analysis 2.5 The process of development Vision and Mission statements 2.6 Importance (benefits) of Vision and Mission statements	
3° From aug 31 to sep 5	2.7 A resolution of divergent views 2.8 Characteristics of a Mission statement 2.8.1 A declaration of attitude 2.8.2 A customer orientation 2.8.3 Mission statement components 2.9 Writing and evaluating Mission statements David, Fred R., David, Forest R. (2017) Vision and mission analysis (pp.171- 180) In <i>Strategic Management concepts and cases</i> (15th.ed) Global Ed. Pearson	Workshop 1 Mission and vision

LEARNING UNIT III: THE EXTERNAL AUDIT

LEARNING OUTCOMES:

- Describe how to conduct an external strategic-management audit.
- Discuss 10 major external forces that affect organizations:
- Discuss the importance of monitoring external trends and events.
- Explain how to develop an EFE Matrix.
- Explain how to develop a Competitive Profile Matrix.

	3.1 The nature of an external audit 3.2 Key internal forces 3.3 The process of performing an external audit 3.4 The industrial organization (I/O) view 3.5 Economic forces 3.6 Social, cultural, demographic and natural environment forces 3.7 Political, Government and Legal forces 3.8 Technological forces 3.9 Competitive intelligence programs 3.9 Competitive forces	
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4° From sep 7 to 12	3.9.1 Rivalry among competing firms 3.9.2 Potential entry of new competitors 3.9.3 Market commonality and resource similarity 3.10 Competitive analysis: Porter's five-forces model 3.10.1 Potential Development of Substitute Products 3.10.2 Bargaining Power of Suppliers 3.10.3 Bargaining Power of Consumers 3.11 Sources of external information 3.12 Industry analysis: the external Factor evaluation Matrix (EFE Matrix) 3.13 Forecasting tools and techniques 3.13.1 Making Assumptions 3.14 The Competitive Profile Matrix (CPM Matrix)	
	David, Fred R., David, Forest R. (2017) The external audit (pp.226 -248) In <i>Strategic Management concepts and cases</i> (15th.ed) Global Ed. Pearson	

LEARNING UNIT IV: THE INTERNAL AUDIT

LEARNING OUTCOMES:

- Be able to work out breakeven analysis business problems.
- Identify the basic functions or activities that make up management, marketing, finance and accounting, production and operations, research and development, and management information systems.
- Explain how to determine and prioritize a firm's internal strengths and weaknesses.
- Explain the importance of financial ratio analysis.
- Develop an internal factor evaluation (IFE) matrix.

5° From sep 14 to 19	4.1 The nature of an internal audit 4.2 Key internal forces 4.3 The process of performing an internal audit 4.4 The resource-based view 4.5 Integrating strategy and culture 4.6 Management 4.6.1 Planning 4.6.2 Organizing 4.6.3 Motivating 4.6.4 Staffing 4.6.5 Controlling 4.7 Management audit checklist of questions 4.8 Marketing 4.8.1 Customer analysis 4.8.2 Selling products and services	Workshop 2 and 3 The EFE and CPM Matrix
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6° From sep 21 to 26	4.8.3 Product and service planning 4.8.4 Pricing 4.8.4 Distribution 4.8.5 Marketing research 4.8.6 Marketing audit checklist of questions 4.5.9 Finance and accounting 4.9.1 Finance and accounting functions 4.9.1 Basic types of financial ratios 4.10 Break even analysis 4.11 Finance and accounting audit checklist 4.12 Production and operations 4.12.1 Production and operations audit checklist 4.13 Research and development 4.14 Value chain analysis 4.15 Benchmarking 4.16 The internal factor evaluation matrix	Graded practical N° 1 From week one to five)
	David, Fred R., David, Forest R. (2017) The internal audit (pp.188 - 219) In <i>Strategic Management concepts and cases</i> (15th.ed) Global Ed. Pearson	

LEARNING UNIT V: TYPES OF STRATEGIES (STRATEGIES IN ACTION)
LEARNING OUTCOMES:

- Identify the benefits and drawbacks of merging with another firm.
- Identify 16 types of business strategies.
- Discuss the value of establishing long-term objectives.
- Compare and contrast financial with strategic objectives.

7° From sep 28 to oct 3	LONG TERM OBJECTIVES 5.1 The nature of long-term objectives 5.2 Financial versus strategic objectives 5.3 Not managing by objectives 5.3 Types of strategies 5.3 Levels of strategies 5.5 Integration strategies 5.5.1 Forward integration 5.5.2 Backward integration 5.5.3 Horizontal integration 5.6 Intensive strategies 5.6.1 Market penetration 5.6.2 Market development 5.6.4 Product development 5.7 Diversification strategies 5.7.1 Related diversification 5.7.2 Unrelated diversification 5.8 Defensive strategies	
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	5.8.1 Retrenchment 5.8.2 Divestiture 5.8.3 Liquidation 5.9 Michael Porter's Five Generic Strategies 5.9.1 Cost leadership strategies (Type 1 and type 2) 5.9.2 Differentiation strategies (Type 3) 5.9.3 Focus strategies (Type 4 and type 5) 5.10 Strategies for competing in turbulent, High velocity markets 5.11 Means for achieving strategies 5.11.1 Cooperation among competitors 5.11.2 Joint venture and partnering 5.11.3 Merger / acquisition 5.11.4 Private-equity acquisitions 5.12 First mover advantages 5.13 Outsourcing and reshoring 5.14 Strategic management in nonprofit and governmental organizations 5.15 Strategic management in small firms	
	David, Fred R., David, Forest R. (2017) Types of strategies (pp.132- 161) In <i>Strategic Management concepts and cases</i> (15th.ed) Global Ed. Pearson	

LEARNING UNIT VI: STRATEGY GENERATION AND SELECTION

LEARNING OUTCOMES:

- Explain how to develop a Strengths-Weaknesses-Opportunities-Threats (SWOT) Matrix, Strategic Position and Action Evaluation (SPACE) Matrix, Boston Consulting Group (BCG) Matrix, Internal-External (IE) Matrix, and Quantitative Strategic Planning Matrix (QSPM).
- Identify important behavioral, political, ethical, and social responsibility considerations in strategy analysis and choice.
- Discuss the role of organizational culture in strategic analysis and choice.

8° From oct 5 to 10	6.1 The nature of Strategy analysis and choice 6.1.1 The Process of Generating and Selecting Strategies 6.2 A comprehensive Strategy-Formulation analytical Framework 6.3 The input stage 6.4 The matching stage 6.5 The SWOT Matrix 6.6 The Strategic Position and action evaluation (SPACE) Matrix 6.7 The Boston consulting group (BCG) Matrix	Workshop 4 The SWOT Matrix
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9° From oct 12 to 17	6.8 The Internal - External (IE) Matrix 6.9 The Grand Strategy Matrix 6.10 The Decision stage 6.11 The Quantitative Strategic Planning Matrix (QSPM) 6.12 Positive Features and Limitations of the QSPM 6.13 Cultural aspects of Strategy choice 6.14 The Politics of Strategy choice	Workshop 5 Space Matrix
	David, Fred R., David, Forest R. (2017) Strategy generation and selection (pp.256 - 281) In <i>Strategic Management concepts and cases</i> (15th.ed) Global Ed. Pearson	

**LEARNING UNIT VII: STRATEGY IMPLEMENTATION, MARKETING, FINANCE
LEARNING OUTCOMES:**

- Develop effective perceptual maps to identify market segments and demand voids.
- Explain market segmentation and product positioning as strategy-implementation tools.
- Develop projected financial statements to reveal the impact of strategy recommendations.
- Perform EPS-EBIT analysis to evaluate the attractiveness of debt versus stock as a source of capital to implement strategies.

10° From oct 19 to 24	7.1 The nature of Strategy implementation 7.2 Current Marketing issues 7.3 New Principles of Marketing 7.4 Market Segmentation 7.5 Retention-Based Segmentation	Graded practical N° 2 (From week six to nine)
11° From oct 26 to 31	7.6 Does the Internet Make Market Segmentation Easier? 7.7 Product Positioning/Perceptual Mapping 7.8 Finance and accounting issues 7.9 Acquiring Capital to Implement Strategies 7.10 Projected Financial Statements	Workshop 6 QSPM matrix
	David, Fred R., David, Forest R. (2017) Strategy implementation (pp.296 - 312) In <i>Strategic Management concepts and cases</i> (15th.ed) Global Ed. Pearson	

LEARNING UNIT VIII: STRATEGY EXECUTION

LEARNING OUTCOMES:

- Explain why strategy implementation is more difficult than strategy formulation.
- Discuss the importance of annual objectives and policies in achieving organizational commitment for strategies to be implemented.
- Explain why organizational structure is so important in strategy implementation.
- Compare and contrast restructuring and reengineering.
- Describe how to modify an organizational culture to support new strategies.

12° From nov 2 to 7	8.1 The nature of Strategy implementation 8.2 Management Perspectives 8.3 Annual Objectives 8.4 Policies 8.5 Resource allocation 8.6 Managing conflicts 8.7 Matching Structure with Strategy 8.8 Restructuring 8.9 Linking Performance and Pay to Strategies 8.1 Managing resistance to change 8.2 Creating a Strategy-Supportive culture 8.3 Human resource concerns when implementing Strategies	
	David, Fred R., David, Forest R. (2017) Strategy execution (pp.332 - 357) In <i>Strategic Management concepts and cases</i> (15th.ed) Global Ed. Pearson	

LEARNING UNIT IX: STRATEGY MONITORING

LEARNING OUTCOMES:

- Describe a practical framework for evaluating strategies.
- Explain why strategy evaluation is complex, sensitive, and yet essential for organizational success.
- Discuss the importance of contingency planning in strategy evaluation.
- Explain the role of auditing in strategy evaluation.
- Describe and develop a Balanced Scorecard

13° From nov 9 to 14	9.1 The nature of Strategy evaluation 9.2 The Process of Evaluating Strategies 9.3 A Strategy-Evaluation Framework 9.4 Reviewing Bases of Strategy 9.5 Measuring Organizational Performance 9.6 Taking Corrective Actions 9.7 The Balanced Scorecard	Workshop 7 IE matrix
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	9.8 Characteristics of an effective evaluation System	
	David, Fred R., David, Forest R. (2017) Strategy monitoring (pp.372 – 385) In <i>Strategic Management concepts and cases</i> (15th.ed) Global Ed. Pearson	

LEARNING UNIT X: ETHICS / SOCIAL RESPONSIBILITY / SUSTAINABILITY
LEARNING OUTCOMES:

- Explain why good ethics are good business
- Discuss the nature and role of corporate sustainability reports.
- Explain how firms can best ensure that their code of business ethics guides decision making instead of being ignored.

14° From nov 16 to 21	BUSINESS ETHICS 10.1 Business Ethics 10.2 Seven principles of admirable business ethics 10.3 Code of business ethics 10.4 An Ethics culture 10.5 Whistle blowing 10.6 Bribes 10.7 Workplace romance 10.8 Social responsibility 10.9 Social policy 10.10 Environmental sustainability 10.11 Lack of standards changing	Graded practical N° 3 (From week eleven to fourteen)
	David, Fred R., David, Forest R. (2017) Ethics/social responsibility (pp.110-121) In <i>Strategic Management concepts and cases</i> (15th.ed) Global Ed. Pearson	

15° From nov 23 to 28	WORKHOP PRESENTATIONS (Based on workshops 1 to 7)	
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16° From nov 30 to dec 5	
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VIII. References

Basic bibliography: Text book

David, Fred R., David, Forest R. (2017) *Strategic Management concepts and cases* (15th.ed) Global Ed. Pearson

IX: Laboratory stand

Not required

X: Professor

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