Syllabus

Subject

Name	11452 - Revenue Management
Credits	0.72 in-class (18 hours) 2.28 distance (57 hours) 3 total (75 hours).
Group	Group 1, 1S (Campus Extens)
Period	First semester
Language	English

Lecturers

Lecturers	Office hours for students					
	Starting time	Finishing time	Day	Start date	End date	Office
Abel Ernesto Lucena Pimentel abel.lucena@uib.eu	17:00	18:00	Wednesday	11/09/2017	30/07/2018	DB012
	16:00	17:00	Thursday	11/09/2017	30/07/2018	DB012

Context

When commercializing their products and services, tourism companies have to make demand management decisions. These decisions are related to issues, such as which selling format to use in the commercialization of products and services, how to segment markets, how to set prices across product categories, whether to accept or reject an offer to buy a product, how to allocate capacity to different segments, products or channels, and when to withhold a product from a market with the aim of selling it to other markets at later points in time.

The analyses of many of these demand management decisions have been widely examined by several different fields (i.e. microeconomics, marketing, business management, operation management). In this course we will adopt a revenue management perspective to examine the demand management decisions of companies operating in the tourism industry. As will be shown during this course, revenue management comprises a collection of new methods that assist managers in the analysis of these decisions. This field allows managers to analyze how to allocate companies' production capacity to the right type of customer, at the right moment and at the right price so as to maximize revenue or yield. In order to reach these goals, revenue management exploits advances in economics, statistics and operation management in order to model demand behavior and environmental conditions, quantify uncertainties faced by companies, estimate and forecast market responses, and determine optimal solutions to complex decision problems. Moreover, revenue management harnesses recent advances in information technology to improve the process of gathering, processing and exploiting the large amounts of data involved in the process of making demand management decisions.

This aim of this course is to study the most important methods, tools and techniques used in revenue management for the analysis of demand management decisions. In doing so, students are expected to develop a general view of how they can use revenue management to examine demand management decisions related to tourism companies. Applications to the lodging and airline industries will be referred to throughout the course to illustrate the usefulness of this field for the analysis of demand management decisions affecting tourism companies. Through the discussion of readings, resolution of exercises and analysis of case studies, the course aims to develop students' capabilities to use revenue management in the analysis of relevant decisions involving tourism companies.

Requirements

This course has no specific requisites.

Recommended

In order to make the most of this course, students should have already taken the course "quantitative methods for tourism research" (11450).

In general, it is recommendable that students have some basic skills in Microsoft Excel in order to harness the content of this course. Students with no prior experience in the use of this software should contact the instructor professor.

Skills

The following list of competences will be assessed during this course.

Specific

* CE1: Learn how to deal with techniques of data collection and analysis and their application in the tourism sector..
* CE9: Learn how to deal with and interpret different models and statistical and econometric techniques to manage and plan tourism destinations and organizations..
* CE12: Being able to strategically manage tourism organizations, including both external factors (threats and opportunities) and internal resources and capabilities of the tourism firm..
* CE18: Learn the economic models, fundamentals for strategic decision making, pricing methodologies, competition and regulation that affect the tourism sector, as well as the relevant economic analysis tools for decision-making and sustainable development, both in private companies and tourism organizations..

Generic

* CG1: Know how to find, process and analyze information concerning the tourism sector from different sources..
* CG4: Know the fundamentals and apply methodologies suitable for the analysis of the tourism sector..

Transversal

* CT1: Capacity for analysis and synthesis..
* CT2: Ability to organize and plan..
* CT4: Information management skills..

Basic

* You may consult the basic competencies students will have to achieve by the end of the Master's degree at the following address: http://estudis.uib.cat/master/comp_basiques/

Content

This course comprises four units. The first introduces students to the most important definitions needed for the analysis of demand management decisions involved in revenue management. At the end of this unit, students should be able to define and understand the main problems that are examined from a revenue management perspective.

The second unit covers the foundations of the field. This unit examines the quantity and price-based revenue management control as two alternative approaches for the analysis of companies' demand management decisions. With the study of this unit, students should be able to understand the basic models used in revenue management in the study of how firms allocate capacity to several customer types and how they set prices that maximize revenue or yield.

The third unit will be devoted to the study of the most popular methods of forecasting used in the field. At the end of this unit, students should be able to use some basic methods to forecast demand for products and services in the tourism industry. Finally, the last unit will analyze the implementation of a system of revenue management in tourism companies. The idea of this unit is to bring together the elements examined in prior units.

Theme content

I. Introduction to revenue management

1.1 Demand management decisions and revenue management
1.2 Origins
1.3 Basic definitions
1.4 Requirements to be implemented
1.5 Links between revenue management and marketing
1.6 Benefits derived from its use and difficulties associated with its implementation
1.7 The use of revenue management in the tourism industry

II. Foundations of revenue management

2.1 Optimal capacity control

2.1.1 Single resource capacity control

2.1.1.1 Littlewood's rule
2.1.1.2 Expected marginal seat revenue
2.1.1.3 Bid pricing

2.1.2 Network capacity control

2.1.2.1 Deterministic linear programming
2.1.2.2 Probabilistic nonlinear programming
2.1.2.3 Dynamic virtual nesting

2.1.3 Overbooking

2.2 Pricing strategies

2.2.1 Price discrimination

2.2.2 Rate parity
2.2.3 Rate obscuring
2.2.4 Price discovery

III. Forecasting methods for revenue management
3.1 Elements to be considered in forecasting
3.2 Types of forecasting
3.3 Macro-level forecasting

3.4 Micro-level forecasting

3.4.1 Exponential smoothing
3.4.2 Moving average
3.4.3 Linear regression
3.4.4 Additive pickup model
3.4.5 Multiplicative pickup model

3.5 Stages of forecasting in revenue management

IV. Implementation
4.1 Decisions on segmentation and product design
4.2 Benchmarking
4.3 Information technology andrevenue management
4.4 Customer perceptions and reactions
4.5 Organizational, cultural and training requirements

Teaching methodology

Below, it is presented the methodology to be adopted to reach the objectives of this course.

In-class work activities

Modality	Name	Typ. Grp.	Description	Hours
Theory classes	Theory sessions	Large group (G)	These sessions will be devoted to presentation and explanation of the main contents included in the course. Discussion and active participation of students is expected during these sessions.	14
Practical classes	Presentation of exercises and case studies	Large group (G)	These sessions will consist of presentations in which students will explain and discuss proposed solutions to assigned exercises and problems related to the field during practical classes. The idea of these sessions is that students put into practice the knowledge acquired along the course. The objective of these sessions is to deepen the assimilation of the theoretical background examined by the course and allows students to apply learnt knowledge in concrete settings. In doing so, these sessions aim to develop and reinforce the students' analytical and problem-solving capabilities.	2
Assessment	Final exam	Large group (G)	This exam seeks to assess the acquisition of skills and competences previously described, as well as the degree of	2

Modality	Name	Typ. Grp.	Description	Hours
			assimilation reached by the students on the tools, methods and strategies comprising the main contents of this course.	

At the beginning of the semester a schedule of the subject will be made available to students through the UIBdigital platform. The schedule shall at least include the dates when the continuing assessment tests will be conducted and the hand-in dates for the assignments. In addition, the lecturer shall inform students as to whether the subject work plan will be carried out through the schedule or through another way included in the Campus Extens platform.

Distance education work activities

Modality	Name	Description	Hours
Individual self-study	Individual self-study	Student self-study is critical to properly assimilate the main contents of this course. To achieve this objective, students should review the issues explained during classes, read, analyze and summarize the subject matters presented in classess and the list of readings recommended in this teaching guide.	35
Group self-study	Team work	This activity consists of preparing a report that analyzes the main applications of revenue management to tourism industries. The idea of this activity is to use and exploit the methods studied over the course to explain how tourism companies make demand management decisions. With this aim, these activities should allow students to develop teamwork skills, such as coordination, organization, control and collaboration capabilities.	22

Specific risks and protective measures

The learning activities of this course do not entail specific health or safety risks for the students and therefore no special protective measures are needed.

Student learning assessment

Students' performance over the course will be assessed as follows:

Theory sessions

Modality	Theory classes
Technique	Oral tests **(non-retrievable)**
Description	These sessions will be devoted to presentation and explanation of the main contents included in the course. Discussion and active participation of students is expected during these sessions.
Assessment criteria	Class participation will be assessed during the course. This evaluation will be based on students' comments that suggest interesting ideas, questions or show valuable insights on the subjects proposed by the lecturer over clases. This assessment also will take into account the lecture's judgements on the students' attitudes towards the activities taking place during both theory and practical sessions. Weight in the final course grade: 10%.

NOTE:

Students are expected to come to class regularly. Nonetheless, attedance is not compulsory. Come to class is not an element to be considered for assessing class participation. Even in the case of a very good attendance, students might have zero points in the assessment of class participation if they do not participate actively in class discussions during the term.

Final grade percentage: 10%

Presentation of exercises and case studies

Modality	Practical classes
Technique	Oral tests **(non-retrievable)**
Description	These sessions will consist of presentations in which students will explain and discuss proposed solutions to assigned exercises and problems related to the field during practical classes. The idea of these sessions is that students put into practice the knowledge acquired along the course. The objective of these sessions is to deepen the assimilation of the theoretical background examined by the course and allows students to apply learnt knowledge in concrete settings. In doing so, these sessions aim to develop and reinforce the students' analytical and problem-solving capabilities.
Assessment criteria	The assessment of this activity will based on the following elements: * Organization of the ideas needed to present the solution of assigned exercises. * Use of notions studied over the course that may be helpful to solve assigned exercises. * Creativity to explain the found solutions. * Clarity in the explanation of found solutions and capacity to answer questions regarding them. Weight in the final course grade is et equal to 18%.

Final grade percentage: 18%

Final exam

Modality	Assessment
Technique	Short-answer tests **(retrievable)**
Description	This exam seeks to assess the acquisition of skills and competences previously described, as well as the degree of assimilation reached by the students on the tools, methods and strategies comprising the main contents of this course.
Assessment criteria	This exam will assess the level of assimilation reached by students on the units covered by the course. This exam will comprise both exercises, short-answer and multiple-choice questions. The weight of this exam in the final course grade is equal to 50%.

Final grade percentage: 50%

Team work

Modality	Group self-study
Technique	Papers and projects **(non-retrievable)**
Description	This activity consists of preparing a report that analyzes the main applications of revenue management to tourism industries. The idea of this activity is to use and exploit the methods studied over the course to explain how tourism companies make demand management decisions. With this aim, these activities should allow students to develop teamwork skills, such as coordination, organization, control and collaboration capabilities.
Assessment criteria	This report will be assessed according to following criteria:

* Capacity to use the tools, methods and strategies covered by the course in the analysis of the industry under question.
* Organization and presentation of the key ideas.
* Creativity to present and examine the use of revenue management tools in the analysis of tourism companies.

Weifgt of this report in the final course grade is equal to 22%.

Final grade percentage: 22%

Resources, bibliography and additional documentation

In what follow, students will find a list of readings related to the main contents of this course. In addition, students will find links that may provide useful information about the field of revenue management.

Basic bibliography

Chase, R.B., Jacobs, F.R. & Aquilano, N.J. (2009). *Operations and Supply Management*. 12th edition. The Mc Graw-Hill/Irwin.
Hayes, D. K., & Miller, A. A. (2011). Revenue management for the hospitality industry (p. 528). River Street Hoboken, NJ: Wiley.
Netessine, S. and Shumsky, R. (2002). Introduction to the Theory and Practice of Yield Management. *INFORMS Transactions on Education*, 3(1), pp.34-44.
Talluri, K. and Van-Ryzin, G. (2004). *The theory and practice of revenue management*. Boston, Mass: Kluwer Academic Publishers.
Zeni, R.H. (2001). Improved forecast accurancy in revenue managemet by unconstraining demand estimates from censored data. Doctoral Thesis. New Jersey: University of Newark.

Complementary bibliography

Courty, P. (2000). An economic guide to ticket pricing in the entertainment industry. *Recherches Économiques de Louvain/Louvain Economic Review*, 167-192.
Johnston, R., and Clark, G. (2008). *Service operations management*. Harlow, Essex, England: Financial Times/Prentice Hall.
Kimes, S. (1989). The Basics of Yield Management. *Cornell Hotel and Restaurant Administration Quarterly*, 30(3), pp.14-19.
Kimes, S. (1989). Yield management: A tool for capacity-considered service firms. *Journal of Operations Management*, 8(4), 348-363.
Kimes, S. E. (2003). Revenue management: A retrospective. *Cornell Hotel and Restaurant Administration Quarterly*, 44(5), 131-138
Relihan, W. (1989). The yield management approach to hotel-room pricing. *Cornell Hotel and Restaurant Administration Quartely*, 30(1): 40-45.
Weatherford, L. R., Kimes, S. E., & Scott, D. A. (2001). Forecasting for hotel revenue management: Testing aggregation against disaggregation. *Cornell Hotel and Restaurant Administration Quartely, 42(4), 53-65.*
Weatherford, L. R., & Kimes, S. E. (2003). A comparison of forecasting methods for hotel revenue management. *International Journal of Forecasting*, 19(3), 401-415.

Other resources

Links of interest:
Harvard Business publishing: http://hbsp.harvard.edu/product/cases

The Center for Hospitality Research, University of Cornell: http://www.hotelschool.cornell.edu/research/chr/