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Teaching Revenue Management at the Cornell University School of Hotel Administration

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The Cornell University School of Hotel Administration was one of the first in the world to offer a university course in revenue management (starting in 1994) and currently offers five courses related to revenue management: Yield Management, Restaurant Revenue Management, Managing Hospitality Distribution Strategies, Hospitality Pricing and Analysis, and Nontraditional Revenue Management. In addition, the school offers undergraduate and graduate concentrations and executive education courses in revenue management. In recent years, about 10%–15% of our graduates have obtained jobs in revenue management and distribution. In the following paper we discuss the evolution of the teaching of revenue management at Cornell providing descriptions of the courses we teach as well as insight into how this content may be delivered at other institutions.

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Introduction

The Cornell University School of Hotel Administration (i.e., The Hotel School), given its industry focus, is in a unique situation as far as the breadth and depth of revenue management (RM) research, education, and industry contacts. RM instruction at Cornell is distinct in both the content we deliver and the number of courses. We primarily train students who in their future careers will be exposed to or will actively practice RM on a regular basis. Comparing Cornell's RM offerings to other institutions reveals some distinctions. RM course offerings at other institutions are typically more general in nature. Bell (2004) discusses the integration of RM concepts in a general management science course, with RM topics taking 3 out of 24 available 80-minute classes at the Ivey School of Business (University of Western Ontario, Canada). Topics covered include price optimization using deterministic demand models, overbooking, and discount allocation. These three sessions are geared toward getting students to think about RM concepts. Dutta (2006) describes the evolution of RM education at the Indian Institute of Management at Ahmedabad (IIMA). RM education at IIMA has evolved from the use of a single case on American Airlines in 1998 to a full four-day program in 2005. The four-day course is team-taught by several faculty members and develops a foundation for RM grounded in economic and marketing principles (rather than algorithms). A few universities offer more traditional MBA-level courses focused on revenue management. The Dynamic Pricing and Revenue Management course taught by Ioana Popescu at INSEAD provides a broad-based introduction to RM principles across numerous industries with a marketing, pricing, and operations focus. Topics include demand estimation, pricing, and markdown management in addition to traditional RM topics such as allocation. Courses similar in nature but different in context and delivery are offered at Georgia Tech by Anton Kleywegt; newer offerings are taught at Lancaster (by Joern Meissner) and Columbia (by Costas Maglaras). Phillips (2003) provides a detailed account of the pricing and RM course he developed and taught while visiting at Columbia. The course follows a similar layout to Phillips' (2005) book, which has been adopted in many RM courses. Phillips formally extends the concepts of RM into pricing and revenue optimization (PRO). PRO extends RM concepts into general retail and nonoperations settings. Netessine and Shumsky (2002), while not particularly discussing an RM course, provide a review of the fundamentals of airline seat allocation. We expect that there are numerous other RM courses that we are unaware of as well as several without detailed online syllabi. In the following sections we provide a brief overview of The Hotel School and how our teaching of RM has evolved over the last 14 years. We discuss the courses offered and comment on what we would focus on if we could only offer one RM course, as is typical at other institutions, rather than the five courses offered at Cornell. An appendix includes abbreviated course outlines for the five RM related courses we currently offer.

The Hotel School

The School of Hotel Administration, one of Cornell's seven colleges, has approximately 850 undergraduate and 60 graduate students. Founded in 1922 as the nation's first collegiate course of study in hospitality management, the Cornell School of Hotel Administration is recognized as the world leader in its field. The Hotel School is located at the center of Cornell's campus in Statler Hall, which contains classrooms, offices, and a computer center. An adjacent 150-room hotel and conference center serves as a learning laboratory for hotel school students.

The Hotel School offers five different courses in RM: Yield Management (with a concentration on hotel applications), Restaurant Revenue Management, Managing Hospitality Distribution Strategies, Hospitality Pricing and Analysis, and Nontraditional Revenue Management. The Yield Management course focuses on the application of RM for hotels with an emphasis on forecasting, overbooking, and allocation. Restaurant Revenue Management highlights the unique nature of applying RM to restaurants. Managing Hospitality Distribution Strategies focuses on marketing and emphasizes how hotels use multiple distribution channels (e.g., phone, travel agents, Internet, etc.) to implement an RM strategy. Hospitality Pricing and Analysis has a strategic focus (versus the tactical approach of RM) on pricing. Nontraditional Revenue Management focuses on newer areas of RM application within hospitality (e.g., spas, event management, and entertainment). In addition, The Hotel School offers both undergraduate and graduate RM concentrations. The RM courses usually have a mix of senior undergraduate and graduate students, with no special accommodations made regarding evaluation or workload. Similar to most business schools, prior to taking any of our RM courses, students have introductory statistics and operations courses covering probability, regression, decision analysis, simulation, and optimization. The RM courses and concentrations will be discussed below.

Yield Management

At Cornell University's Hotel School, the first RM course was offered in 1994 as a 10-person special topics course. The course evolved into a full-semester course that was offered for the first time in 1996. Since then, the course has been offered once or twice a year (depending on staffing) to 40–50 students per year.

The course currently covers forecasting, optimization methods, overbooking, pricing, distribution management, training and management issues, and an overview of the various hotel RM systems in use. A variety of articles (primarily nontechnical) are assigned and discussed. Guest speakers are scheduled two to three times per semester; past semesters have included speakers from Marriott, IDeaS, Starwood, Priceline, Disney, Harrah's, and Expedia.

The course is project-based, and students work in groups of three or four to develop a functioning Microsoft Excel®-based RM system for a 200–300 room hotel with three to four rate categories and three different lengths of stay. Students are given simulated daily booking and overbooking data for a three-month period.

The project is broken into three parts: (1) forecasting, (2) availability controls and overbooking, and (3) a final model that integrates the first two parts into a functioning Excel-based system. Each part will be described below.

Forecasting

In the forecasting project, students develop detailed daily forecasts for each length-of-stay and rate-category combination for the next 60 days and measure the associated forecast error. The project also entails summarizing the results in a written form that is easily accessible to managers. Clear written and oral communication of technical results is an integral part of the course, and the message that we constantly reinforce is that the way results are conveyed matters as much as technical accuracy. Grossman et al. (2008) provide further support for the need to equip students with the ability to communicate technical material in a nontechnical fashion.

Availability Controls and Overbooking

In the second project, students use the results from their forecasting project to develop bid prices (using a simple optimization model) for each day in the planning horizon and use these bid prices to develop rate and length-of-stay controls. The students also use data on no-shows to develop appropriate daily overbooking limits for the hotel and adjust the hotel capacity to account for overbooking. Again they must summarize the results in a way that managers can understand. The written portion of the project is particularly challenging for students because they are not allowed to use technical terms (such as linear programming, shadow price, or bid price) but must instead explain what they did in managerial terms. To encourage clarity, we suggest asking fellow students (who are not taking the Yield Management course) to read the report and comment on whether they understand the content.

Final Project

In the final project the students integrate the results of their first two projects into a fully functioning Excel- or Visual Basic for Applications (VBA)-based system. There is a strong focus on a clear interface that is easy to use and navigate. In addition, the students are required to develop a pricing strategy for the hotel, training materials, incentive approaches for all relevant employee groups, and a financial analysis of the potential impact of the system. The spreadsheet skills of our students vary considerably because the course has no preset requirement. We use a series of video labs to augment spreadsheet skills without using class time. The labs are Windows media files with voice narration of the professor building spreadsheet models that illustrate key concepts. The videos are created with Camtasia Studio by TechSmith (2009), which captures all keystrokes. To complete assignments, students first complete the labs, then alter and add to models created in the labs. There are four final deliverables: (1) a written report, (2) the software, (3) a clearly written user's manual to accompany the software, and (4) a presentation to the management team. The professor, teaching assistants, and other students act as the management team. Students are required to give a 30-minute professional presentation and respond to 15 minutes of questions about their system and approach. The presentations are to be targeted towards the management team and designed to deliver a straightforward and compelling argument. The presentation also includes a demonstration of their software.

The course also includes weekly homework assignments that help students build the skills necessary to complete the projects. Assignments are typically spreadsheet-based, although some are more conceptual in nature. Spreadsheet-based assignments include forecasting, optimization, overbooking, and group allocation decisions, whereas the more qualitative assignments include evaluation of currently available hotel RM systems, price consistency across channels, and application of RM to nontraditional settings.

The course has been well received by students and employers. The students are challenged to outdo students in the previous semester (we usually have students who had the best project from the previous semester come to class to present their project). We set this as the baseline expectation.

The course also includes a take-home examination in which students are required to respond to 8 to 10 straightforward essay questions (such as "What is RM?" or "Why should a hotel overbook?") in no more than 100 words. Answers are to be directed at an intelligent but nontechnical manager. Students find the exercise very challenging, and former students have reported that this test helped shape their ability to present things clearly and concisely.

Restaurant Revenue Management

The Restaurant Revenue Management course was first offered in 1999 as a half-semester course (fourteen 75-minute classes) and has since evolved into a full-semester course that is offered once a year and attracts 30–40 students. In this course, students work in small groups and apply RM principles to a local restaurant. All groups work on the same project, a single restaurant chosen from local contacts. As with the Yield Management course, this course is project-based and students are required to present their results in a format that is easily understood by managers. This course requires three reports and presentations and the management team of the restaurant attends all three presentations. Restaurant RM involves more process-design aspects than a traditional RM course because restaurants typically have more control over capacity and the management of customers using that capacity.

In the first project, students are given the restaurant's point of sale (POS) transaction data and asked to use this to estimate baseline measures such as seat occupancy, revenue per available seat hour (RevPASH), meal duration, party size mix, and average check per person. In the second project, they conduct detailed observational and time studies on the various service processes (including arrival, seating, meal consumption, check payment, and clearing and reseating the table); determine an optimal table mix for the restaurant; and develop preliminary recommendations. In the final project, students combine their findings from the first two projects with an analysis of the menu pricing and develop detailed implementation recommendations. They are also required to develop training materials for different employee groups (managers, hosts, and wait staff). All projects have two deliverables: a report (written in clear managerial language) and a presentation.

As with the Yield Management course, the homework assignments are designed to help the students obtain the necessary skills to complete the project. In addition, several cases are used to help facilitate discussion.

Topics covered in this course include RM basics, baseline measurement, process and service design, table mix, arrival management, pricing issues, and menu design. Two to three guest speakers are usually scheduled and have included high-level management from Harrah's, Disney, and OpenTable.com.

Nontraditional Revenue Management

The Nontraditional Revenue Management course was first offered in 2008 and uses video-conferencing technology so that students on both of campuses (Ithaca, New York and Singapore) can simultaneously take the course. Students work in virtual teams on live projects. This year's projects included spa RM for Mandarin Oriental in Hong Kong and Gaylord Hotels in Nashville, and function space RM (conference and banquet rooms) for JW Marriott in Shanghai.

The course meets for half the semester and has the Yield Management or Restaurant Revenue Management courses as prerequisites. We discuss how managing price, time, and space can be used to increase revenue and how to apply these levers in different contexts. The course is taught as a seminar and relies heavily on student discussion. Case studies with strong analytical components are used to help illustrate how RM can be applied and give students the opportunity to apply RM tools and ideas in a structured environment.

Managing Hospitality Distribution Strategies

We have offered a distribution course for several years, initially as a full-semester course on distribution, but recently the course has been divided into two half semester courses, one focused on distribution and the other on pricing. The goal of the distribution course is for students to understand the basic structure of distribution within the travel and hospitality industry by both market segment (leisure, business, and group) and channel (direct, reservations center, sales, travel agent, brand site, and online travel agent). A further objective is to apply marketing management principles and concepts within the distribution system in view of the major changes affecting travel and hospitality distribution.

The course includes lectures, homework assignments, case studies, guest speakers, and class discussions. Lectures review the evolving hospitality distribution environment in the United States, Europe, and Asia, with an emphasis on the impact of online distribution including the shopping, buying, and packaging of services. The course also describes the structure of distribution from a systems, market segment, and industry perspective—suppliers, aggregators, and intermediaries.

Homework assignments and case studies engage students in current issues facing hotels, intermediaries, and tour operators in the management of distribution. Cases such as the recent InterContinental Hotel Group and Expedia dispute over inventory and price control (Serlen 2004) and the formation of U.S.-based tour operators (Whitefield 2003) focus students on current distribution issues. Homework assignments require students to evaluate selected hotel distribution strategies by reviewing brand websites, calling reservations centers, and requesting an RFP for a block of rooms. Students then compare hotel strategies with those that other students have found. Other homework assignments require students to develop distribution strategies for hotels facing fictitious distribution challenges.

Guest speakers expand on distribution issues and management concepts presented in class. For example, a presentation by Greg Pessic, CEO of Passkey (an online group-management software solution provider), preceded a class homework assignment to develop a sales management strategy with measurable performance metrics. In the assignment, a revenue manager, director of sales, and reservation center manager were to be given quantifiable distribution performance metrics as defined by the (student) owner. For the assignment, Passkey's software metrics reports became an instrument for the revenue manager to track bookings and revenue generation and for the sales director to gauge performance versus forecast both prior to and after the sales event around which the assignment is designed.

Hospitality Pricing and Analysis

Our pricing course has evolved from the distribution course and exists largely as a result of industry professionals asking for students to be better trained in the basics of pricing. Similar to the distribution course, the pricing course is marketing-focused, with a goal to understand the role of pricing within a firm's overall revenue management strategy.

The course introduces traditional pricing strategies and breakeven analysis along with concepts of pricing policy development and communication. It then expands traditional concepts into the evolving hospitality distribution environment where price response (elasticity) is impacted by variations in the display and business mix of hotels and channel costs.

Homework assignments are designed to give students practice in quantitative analysis associated with pricing decisions and the development of pricing strategies for various groups within a typical hotel organization—revenue management, sales, and reservations center. The course culminates in a pricing simulation (see the appendix) where students compete in groups to determine a pricing strategy for a hotel. The simulation includes making pricing decisions across both market segment (leisure, business, corporate, wholesale, and group) and channel (brandsite, reservations center, intermediary, and sales). The simulation is competitive; the actions of one pricing team impact all others as the firms fight for market share. With each round of "play," financial results

Table 1 **Revenue Management Placement History**

Graduation year	2003	2004	2005	2006	2007	2008*
Percent of RM careers	21.4	23.8	22.2	8.1	6.4	12.8

*Estimate based on known placements.

(income statements) as well as market share and pricing information reports are produced by channel and segment.

The Role of RM Within the Curriculum

Revenue Management becomes a career focus for approximately 10% of our alumni. Our graduates have taken RM positions with Expedia, Marriott, Hilton, Starwood, Royal Caribbean Cruise Lines, Northwest Airlines, Harrah's, Trump, Wynn, and many other companies. We estimate that 10%–15% of our Master's of Management in Hospitality (MMH) students and 5%–10% of our undergraduates have taken jobs in RM and distribution. Table 1 summarizes the percent of recent MMH placement in RM careers based on surveys three months after graduation. The decline in RM-related placements over the last three years coincides with increased placement in real estate and finance jobs (a reversal of which we are seeing for 2009), as students seek higher starting salaries. It also coincides with the change of our Master's program from a two-year to a one-year program. In a one-year format, fewer students are exposed to the richness of RM because they take fewer elective courses.

Table 2 summarizes recent enrollments in our RM courses. The Managing Distribution Strategies course was a full-semester course until the 2007–2008 academic year, when it was split into two half-semester courses (Managing Distribution Strategies and Hospitality Pricing and Analysis). The nontraditional RM course was first offered in 2007–2008.

At the undergraduate level students can declare a concentration in RM, and within our one-year Master's program, students can opt into an RM career track. The undergraduate concentration requires a specific set of courses. The RM career track has an evolving industrial advisory board that has had members from Marriott Corporate, Expedia, TravelCLICK, Royal Caribbean Cruise Line, IDeaS, Revenue Management Solutions, and Harrah's. Early in the program, students meet with advisory board members to discuss career opportunities and RM careers in general. Throughout the program, students continue to have contact with the advisory board as they start their job search or look for internship opportunities. Faculty members meet with the advisory board to discuss curriculum, research, and general trends within RM.

Lessons Learned

Since our first RM course was taught in 1994, RM education has continually evolved with migration from yield to revenue management, consideration of other facets within hospitality, and evolution toward electronic distribution and pricing. Given that most schools are more likely to offer a single RM course than to offer five, we reflect on what that course could focus on, based our experience at Cornell University.

Our course offerings reflect the evolution of RM from managing yield to the increased role of the Internet in reaching customers, the movement to more active pricing within RM, and finally the popularity of RM application in newer industries. A single course offering should capture these new dynamics, with topics including forecasting, allocation, segmentation, and pricing. Forecasting would extend the standard regression analysis covered in required operations, statistics, or management science courses to time-series methods and the use of adaptive or combination methods that take advantage of the advanced reservations that are available in most RM settings. Allocation would involve the illustration of how the traditional newsvendor framework can be used to determine overbooking levels and allocate capacity across customer segments; it would also highlight the role of optimization (linear programming in particular) in calculating the marginal value of capacity (shadow prices). Pricing would encompass basic background in microeconomics, the estimation of demand response or elasticity, the role of demand elasticity in setting prices and determining breakeven price changes, and an introduction to game theory (the relationship between the prisoner's dilemma and competitive pricing). These topics should be framed

Table 2 **History of Enrollment in RM Related Courses at Cornell University's School of Hotel Administration**

	Enrollment							
Course	2000–2001	2001–2002	2002–2003	2003–2004	2004–2005	2005–2006	2006–2007	2007–2008
Yield Management	82	27	52	43	48	42	36	50
Restaurant RM	35	26	27	34	28	20	39	18
Managing Hospitality Distribution Strategies			5	16	13	30	30	23
Hospitality Pricing and Analysis								20
Nontraditional RM								11

within a market segmentation framework. Successful RM requires firms to properly segment their markets, then price and allocate inventory to these segments. Segmentation would encompass traditional RM techniques, such as fencing and restriction setting, as well as newer approaches using bundling and opaque pricing. Universal Rental Car (Harvard Business School Case 2661) is an online simulation that we have used in executive pricing courses; it focuses on single-channel pricing of a single product in a two-segment market. This case effectively illustrates the impacts of price changes, provides sufficient data for elasticity estimation, and makes for a fun and challenging capstone exercise.

Table 3 lists suggested materials around which a course could be structured. The Edelman video on American Airlines (Smith et al. 1991) in conjunction with Cross (1998) and the Kimes and Chase (1998) article on the strategic levers of RM provides for solid introductory material on RM. Weatherford and Kimes (2003) provide a summary of traditional RM forecasting techniques. Allocation can be introduced with the short video clip from CNBC on *Inside American Airlines* (Weitzner and Greenberg 2006). Smith et al. (1991) and Belobaba (1989) provide an excellent overview of traditional leg-based inventory control, with Williamson and Belobaba (1988) furnishing an introduction to network effects and Chen and Freimer (2004) introducing the use of shadow prices for network control. Anderson and Wilson (2003) introduce the idea of strategic customers and the impact of such behavior on traditional RM. The recent success of websites such as www.farecast.com underlines the importance of accounting for strategic consumer behavior. Roberts (2002) and Phillips (2005) provide good background on more robust approaches for demand estimation. Carroll and Siguaw (2003) discuss the changes resulting from online travel distribution, with Anderson (2009) illustrating the role of opaque selling mechanisms (Priceline and Hotwire) from a service provider's standpoint and Anderson et al. (2008) from a consumer's standpoint.

Table 3 Supporting Materials

	Topic
Journal articles	
Kimes and Chase (1998)	Introduction to RM
Weatherford and Kimes (2003)	Forecasting for RM
Belobaba (1989)	Allocation
Williamson and Belobaba (1988)	Allocation
Rothstein (1985)	Overbooking
Roberts (2002)	Pricing and demand estimation
Anderson and Wilson (2003)	Pricing and customer behavior
Carroll and Siguaw (2003)	Pricing and distribution
Anderson (2009)	Pricing and distribution
Anderson et al. (2008)	Pricing and distribution
Books	
Cross (1998)	Introduction to RM
Chen and Freimer (2004)	Allocation and bid price control
Phillips (2005, Chapter 11)	Pricing
Videos	
INFORMS Edelman Series American Airlines (Smith et al. 1991)	Introduction to RM, Airline RM
Inside American Airlines (Weitzner and Greenberg 2006)	Allocation

Summary

Although remaining grounded in services, RM education has evolved over its 14-year history at Cornell University's School of Hotel Administration. RM education remains focused on traditional RM industries (hotels, air, rental car, cruise, and restaurants) with an increasing focus on pricing and distribution. Unlike RM course offerings at some other institutions, we focus on hospitality rather than newer applications in retail or financial services. Hotel RM, unlike airline or rental car RM, is very decentralized (i.e., RM is practiced at the hotel level), requiring revenue managers who are both technically savvy and able to convince (on a daily level) nontechnical staff of the need to reject business in aspirations of future higher-yielding customers. The focus on technical competency communicated by the development of functioning RM systems in concert with nontechnical presentation of material has enabled our students to be very successful in the industry.

Appendix. Abbreviated Course Outlines

Yield Management

Yield Management/Revenue Management/Dynamic Pricing are methods for profitably managing hotel capacity. Most (all) hotels practice some sort of yield management, and there is a shortage of qualified personnel to assist hotels with their yield management endeavors. The intent of this course is to teach students how to effectively implement hotel yield management techniques. Emphasis will be placed on the integration of techniques and information Technology, and the course will provide students with exposure to other areas in the travel market. In addition, students will be expected to express technical yield management terms in clear, managerial language.

Grading

Homework	35%
Group project	35%
Interim project	10%
Take-home exam	10%
Discussion	10%

Required Course Material

- Handouts
- Powerpoint slides
- Spreadsheets
- Articles
- Cross, Robert G. 1997. *Revenue Management: Hard-Core Tactics for Market Domination*. Broadway Books.

Topic List

- Introduction to yield management
- Forecasting
- Demand control
- Class allocation
- Linear programming and network control
- Arrival uncertainty and overbooking
- Group displacement and pricing
- Distribution
- Pricing
- Performance measurement
- Air, car rental, cruise, and packaged vacation RM

Restaurant Revenue Management

Revenue management is a method for profitably managing capacity. The objective of this course is to help students learn how to apply the principles of revenue management to restaurants. The course focuses on methods of managing duration and price with the intent of maximizing revenue per available seat-hour.

Grading

Group project	40%
Case analysis	20%
Homework	30%
Discussion	10%

Required Course Material

- Handouts
- Powerpoint slides
- Articles
- Cross, Robert G. 1997. *Revenue Management: Hard-Core Tactics for Market Domination*. Broadway Books.

Topic List

- Introduction to revenue management
- Establishing the baseline
- Understanding the drivers
- Managing space
- Managing time
- Managing price
- Implementation

Nontraditional Revenue Management

This course is designed to provide students with an opportunity to apply revenue management principles to nontraditional industries and to other parts of the hotel through the use of virtual teams. The course is discussion focused and uses a combination of cases and a project to illustrate RM concepts as they are applied to nontraditional areas such as spas and function or convention space.

Grading

Homework	15%
Cases	30%
Project	45%
Discussion	10%

Required Course Material

- Handouts
- Powerpoint slides
- Articles

Topic List

- Introduction and project overview
- Strategic levers of RM
- Developing an RM program
- Managing space, time, and price
- Perceived fairness
- Quadrant 1 industries: Function space, spas, performing arts centers, and stadiums
- Quadrant 2 industries: Recent trends in hotel, airline, and rental car revenue management
- Quadrant 3 industries: Golf and restaurants
- Quadrant 4 industries: Retail and health care
- Implementation issues

Managing Hospitality Distribution Strategies

Hospitality distribution is the way hospitality providers communicate and transact with their customers. It is also the way customers select and connect with hospitality providers. This process is in a period of dramatic change. Within five years the number of bookings made via the Internet will increase from 1 in 10 to 1 in 3. The role of intermediaries such as travel agents and wholesalers along with their use of electronic distribution is also changing. Global distribution systems, which now handle one in four hotel transactions, will be very different organizations in the future. So will other intermediaries. The course provides a framework for managing marketing distribution strategies.

Grading

Homework	30%
Cases	30%
Final exam	30%
Discussion	10%

Required Course Materials

- Readings
- Case studies
- Powerpoint slides

Topic List

- Distribution as a component of a marketing strategy
- Role of the Internet: United States and rest of world
- Leisure market distribution
- Search marketing, Web 2.0, and social media
- Corporate market distribution
- Group market distribution
- Travel management distribution
- Management of marketing distribution

Hospitality Pricing and Analysis

The development and application of pricing strategies in the hospitality industry are presented. Marketing, economic, and financial pricing principles are applied in the context of the hospitality industry. Students are exposed to both traditional pricing theory and the practical application of pricing tools and analytical processes. Major trends and issues in hospitality pricing are examined and discussed, including the emerging role of the channel management and dynamic travel packaging. Readings, lecturers, discussions, cases, exercises, and presentations by industry experts are used to acquaint the student with the complexity and the methods of executing tactical and strategic hospitality pricing actions.

Grading

Homework	45%
Final exam	25%
Pricing simulation	20%
Discussion	10%

Required Course Materials

- Readings
- Case studies
- Powerpoint slides

Topic List

- Overview
- Pricing strategies
- Pricing policies and communication
- Breakeven analysis
- Pricing and distribution
- *Rev* simulation
- Competitive analysis
- Pricing ethics

Simulation

We use a simulation model developed by Peter Starks called *Rev* to facilitate learning about revenue management, pricing, and channel distribution strategy. Using *Rev*, students set prices; make facility decisions; make advertising expenditures; and bid on group business for a given property with a particular quality level in a predefined type of market (leisure, commercial, or mixed) and competitive set (typically three to five properties of a similar quality). After the facilitator sets an initial market position, each player competes with other players for market share using a pricing and distribution strategy coupled with facility, advertising, and group acceptance strategies. Those decisions produce a net pretax profit effect for each player (hotel). For access to the simulation contact Peter Starks at pstarks@triad.rr.com.

References

Anderson, C. K. 2009. Setting prices on priceline. *Interfaces*. Forthcoming.

Anderson, C. K., J. G. Wilson. 2003. Wait or buy? The strategic consumer: Pricing and profit implications. *J. Oper. Res. Soc.* **54**(3) 299–306.

Anderson, C. K., J. G. Wilson, G. Zhang. 2008. Case—Bidding on priceline. *INFORMS Trans. Ed.* **9**(1) 35–45. Available online at http://ite.pubs.informs.org/.

Bell, P. 2004. Revenue management for MBAs. *OR/MS Today* **31**(4) 22–27.

Belobaba, P. P. 1989. Application of a probabilistic decision model to airline seat inventory control. *Oper. Res.* **37**(2) 183–197.

Carroll, W. J., J. Siguaw. 2003. Evolution in electronic distribution: Effects on hotels and intermediaries. *Cornell Hotel and Restaurant Administration Quart.* **44**(4) 38–50.

Chen, D., M. Freimer. 2004. Understanding the bid price approach to revenue management: A case of the revenue inn. I. Yeoman, U. McMahon-Beattie, eds. *Revenue Management and Pricing: Case Studies and Application*. Thomson Learning, London, 174–183.

Cross, B. 1997. *Revenue Management: Hard Core Tactics for Market Domination*. Broadway Books, New York.

Dutta, G. 2006. Is India ready for revenue management? *OR/MS Today* **33**(2) 56–58.

Grossman, T. A., J. S. Norback, J. R. Hardin, G. A. Forehand. 2008. Managerial communication of analytical work. *INFORMS Trans. Ed.* **8**(3) 125–138. Available online at http://ite.pubs.informs.org/.

Kimes, S. E., R. B. Chase. 1998. Strategic levers of yield management. *J. Service Res.* **1**(2) 156–166.

Netessine, S., R. Shumsky. 2002. Introduction to the theory and practice of yield management. *INFORMS Trans. Ed.* **3**(1). Available online at http://ite.pubs.informs.org/.

Phillips, R. 2003. Teaching pricing and revenue optimization. *INFORMS Trans. Ed.* **4**(1) 1–10. Available online at http://ite.pubs.informs.org/.

Phillips, R. 2005. *Pricing and Revenue Optimization*. Stanford Business Books, Stanford, CA.

Roberts, D. 2002. Modeling customer choice. *J. Revenue and Pricing Management* **1**(4) 369–378.

Rothstein, M. 1985. OR and the airline overbooking problem. *Oper. Res.* **33**(2) 237–248.

Serlen, B. 2004. IHG Yanks Expedia listing. *Business Travel News* (September 6), http://www.btnonline.com/businesstravelnews/search/article_display.jsp?vnu_content_id=1000624315.

Smith, B. C., J. F. Leimkuhler, R. M. Darrow. 1991. Maximizing revenues through optimum control of the amount of product offered at various prices: Yield management at American Airlines. Disc 91.01. *American Airlines Decision Technologies*. DVD. INFORMS, Hanover, MD, http://www.informs.org/site/edelman_dvd/article.php?id=178&p=.

Smith, B. C., J. F. Leimkuhler, R. M. Darrow. 1992. Yield management at American Airlines. *Interfaces* **22**(1) 8–31.

TechSmith.com. Camtasia Studio. Accessed March 11, 2009, http://www.techsmith.com/camtasia.asp.

Weatherford, L. R., S. E. Kimes. 2003. A comparison of forecasting methods for hotel revenue management. *Internat. J. Forecasting* **19** 401–415.

Weitzner, M., P. Greenberg. 2006. Inside American Airlines: A week in the life. DVD. CNBC, Englewood Cliffs, NJ.

Whitefield, M. 2003. The saga of the failure of a dream. *Miami Herald* (October 27) 3.

Williamson, E. L., P. P. Belobaba. 1988. Optimization techniques for seat inventory control. *Proc. 28th Annual AGIFORS Sympos.*, 153–170.