# ECON 291 Economics of Leisure, Recreation & Sports

# Description

This course covers topics related to how individuals choose to spend the time available to them when they are not working. After studying a theoretical model that highlights the factors that impact leisure hours, the course then considers some manners in which leisure time is spent. This includes participation and consumption of sporting activities; "rockonomics", which is the economic study of the music industry; and the economics of the video game industry, which has many unique characteristics.

## **Objectives and Learning Outcomes**

#### This course has three objectives:

- 1. To learn how leisure can be modeled using the tools of economics;
- 2. To demonstrate how statistical analysis can be used to study professional sports and leisure;
- 3. To use economics to understand how resources are allocated in professional sports and leisure.

# Pre-requisite

ECON 101: Introduction to Microeconomics

## Evaluation

- Assignments (three @ 10% each): 30%
- Mid-Term Exam: 20%
- Final Exam: 40%
- Attendance & Participation: 10%

Winter 2018 Tue (11:15 – 12:30) & Fri (12:15 – 1:30)

Classroom: CO 110

Instructor: Greg Tkacz E-Mail: gtkacz@stfx.ca Phone: (902) 867-4846 Office: Nicholson Tower 505 Office Hours: Tue (10:00 – 11:00); Wed & Fri (10:00 – 12:00)

## Textbook

You don't need to purchase a textbook for this course. The Barro and Mansfield books will be placed on reserve in the library. Other readings can be downloaded from Moodle.

## Key Dates

January 26 Assignment #1 is due

#### February 10 to March 3

Assignment #2, which consists of participating in Round #173 of *Miniconomy*, is live.

**February 13** Mid-Term Exam

February 16 Mid-Term Exam (make-up date)

#### March 23

Assignment #3 is due

#### April

Final Exam to be scheduled by the Registrar's Office

# Course Outline

#### Part I: The Work-Leisure Trade-off

- 1. The Theory of Work and Leisure: A Robinson Crusoe Economy
- We study a model that helps us understand the number of leisure hours that households have at their disposal. Due to necessary consumption requirements, we find that an infinite amount of leisure may not be the most desirable solution.

#### Reading:

Barro, R. (1990) Macroeconomics, 3rd Edition. HB 172.5 B36 (on reserve in the library), Chapter 2.

- 2. Empirical Evidence on Work and Leisure: Who Works the Most?
- In some countries, many workers enjoy four-day work weeks and six weeks of paid vacation. In others, two weeks of vacation time is a luxury. How can our Robinson Crusoe model account for these differences?

#### Reading:

Gratton, C. and P. Taylor (2000) *Economics of Sport and Recreation*. New York: Spoon Press. ISBN 0-419-18960-2 (Available as an e-book through the St FX library), Chapter 3.

#### Part II: Leisure Industries

- 3. The Economics of the Video Game Industry
- The video game industry generates more worldwide revenues than the NFL and NHL combined. It is also peculiar in the sense that it does not follow the aggregate economic cycle. We will study the past, present and future of this industry.

#### Readings:

Crandall, Robert and J. Gregory Sidak (2006) "Video Games: Serious Business for America's Economy." Entertainment Software Association. <u>https://www.criterioneconomics.com/docs/sidak-video-games-serious-business-for-americas-</u>economy.pdf

Entertainment Software Association (2017) "Essential Facts About the Computer and Video Game Industry." http://www.theesa.com/wp-content/uploads/2017/06/!EF2017\_Design\_FinalDigital.pdf

Plumer, Brad (2012) "The Economics of Video Games." *The Washington Post*, 28 September. https://www.washingtonpost.com/news/wonk/wp/2012/09/28/the-economics-of-video-games/

Siwek, Stephen (2017) "Video Games in the 21<sup>st</sup> Century: The 2017 Report." Entertainment Software Association. http://www.theesa.com/wp-content/uploads/2017/02/ESA\_EconomicImpactReport\_Design\_V3.pdf

Williams, Dmitri (2002) "Structure and Competition in the U.S. Home Video Game Industry." *The International Journal of Media Management* 4(1), 41-54.

- 4. The Economics of the Music Industry
- Consuming music is another way in which households like to spend some of their leisure time, be it through attending concerts or through purchases for home consumption. The music industry is quite peculiar, so we will discuss how concerts and music are priced.

#### Readings:

Connolly, M. and A. Krueger (2006) "Rockonomics: The Economics of Popular Music" in *Handbook of the Economics of Art and Culture*, vol. 1, V.A. Ginsburgh and D. Throsby (eds), Amsterdam: North Hollad, pp. 667 – 719.

Fer, A. and B. Baarsma (2016) "Rockonomics Revisited: The Rise of Music Streaming Services and the Effect on the Concert Industry." *International Journal of Music Business Research* 5(1), 7 – 35. https://musicbusinessresearch.files.wordpress.com/2012/04/volume-5-no-1-april-2016-fer-and-baarsma1.pdf

Krueger, A. (2005) "The Economics of Real Superstars: The Market for Rock Concerts in the Material World." *Journal of Labor Economics* 23(1), 1 – 30.

#### Part III: Professional Sports

- 5. The Economics of Professional Sports: Theory
- Professional sports teams in North America usually compete within "leagues", entry into which is strictly controlled. This competition within a monopoly makes professional sports an interesting industry to study.

Readings:

Jones, J. C. H. (1969) "The Economics of the National Hockey League." Canadian Journal of Economics 2, 1-20.

Neale, Walter C. (1964) "The Peculiar Economics of Professional Sports" Quarterly Journal of Economics 78, 1-14.

- 6. The Economics of Professional Sports: Empirical Studies
- Professional sports leagues generate mountains of data, and like economic variables, some series can be used to explain or predict others. Sports analytics received a boost from the Oakland A's and "Moneyball", with the results that most professional sports teams now have analytic departments that attempt to assemble winning teams at lower cost.

#### Readings:

Chan, Timothy and David Novati (2012) "Split Personalities of NHL Players: Using Clustering, Projection and Regression to Measure Individual Point Share." MIT Sloan Sports Analytics Conference, 2-3 March 2012. http://www.sloansportsconference.com/wp-content/uploads/2012/02/59-Chan\_Novati\_Split-personalities-of-NHL-players.pdf

Hakes, J. and R. D. Sauer (2006) "An Economic Evaluation of the *Moneyball* Hypothesis." *Journal of Economic Perspectives* 20, 173-185.

Hakes, J. and R. D. Sauer (2007) "The Moneyball Anomaly and Payroll Efficiency: A Further Investigation." *International Journal of Sport Finance* 2, 177-189.

Keller, Tony and Neville McGuire (2011) "The New Economics of the NHL: Why Canada can Support 12 Teams". Mowat Centre for Policy Innovation, School of Public Policy & Governance, University of Toronto. http://www.mowatcentre.ca/research-topic-mowat.php?mowatResearchID=31

Lanoue, Derek (2015) "Does it Pay to Win the Stanley Cup?" University of Windsor Working Paper 15-02. http://web2.uwindsor.ca/economics/RePEc/wis/pdf/1502.pdf Mansfield, E. (1987) *Statistics for Business and Economics: Methods and Applications*, 3<sup>rd</sup> Edition. HA 29 M2463 1987 (on reserve in the library). Selected chapters.

Mason, D. S. and W. M. Foster (2007) "Putting Moneyball on Ice?" International Journal of Sports Finance 2, 206-213.

McLean, Robert C. and Michael R. Veall (1992) "Performance and Salary Differentials in the National Hockey League." *Canadian Public Policy* 18, 470-475.

Schuckers, Michael (2011) "DIGR: A Defense Independent Rating of NHL Goaltenders using Spatially Smoothed Save Percentage Map." MIT Sloan Sports Analytics Conference, 4-5 March 2011. http://myslu.stlawu.edu/~msch/sports/Schuckers\_DIGR\_MIT\_2011.pdf

Vincent, Claude and Byron Eastman (2009) "Determinants of Pay in the NHL: A Quantile Regression Approach." *Journal of Sports Economics* 10, 256-277.

Woodland, Linda M. and Bill W. Woodland (2001) "Market Efficiency and Profitable Wagering in the National Hockey League: Can Bettors Score on Longshots?" *Southern Economic Journal* 67, 983-995.

- 7. Special Topic: NHL Lockouts
- The NHL experienced lockouts in 2004-05 and 2012-13. We will examine some of the issues and similarities, and relate these to our theoretical model of professional sports leagues to understand their root causes.

Readings:

Rasnic, Carol and Reinhard Resch (2014) "Missing the Puck at the Bargaining Table: The 2012-2013 National Hockey League Labor Dispute with Some Comparisons to European Law." *The International Sports Law Journal* 14(3), 192-204.

Staudohar, Paul D. (2005) "The hockey lockout of 2004-05." Monthly Labor Review, December, 23-29.

Winfree, J. and R. Fort (2008) "Fan substitution and the 2004-05 lockout." Journal of Sports Economics 9, 425-434.

#### Part IV: The Economics of Uncertainty: Lotteries and Gambling

- 8. Background: Probability Theory
- Probability theory is a powerful tool that allows us to value anything with an uncertain outcome, such as lotteries or casino games (or even financial securities.) We will cover uncertainty; random variables; expected value and variance; etc.

Reading:

Mansfield, Chapters 2, 3 and 4.

- 9. Valuing Games and Lotteries
- Using probability theory, we will compute the expected values of some common lotteries and other forms of gambling, such as casino games or horse races. This will allow us to compute "rational" values of various games in order to determine how much people are willing to pay for a *chance* of obtaining additional leisure.

# Frequently Asked Questions

Q1: Will class notes be posted online?

A1: NO! You must attend class and take notes using pen and paper. I will write everything on a board or projector. Should you miss a class, you can get the notes from one of your classmates.

Q2: What is the penalty for late assignments?

A2: 10% per day. Assignments are due before the end of class on the due date. If handed-in after class, a 10% penalty will be imposed. I will not be accepting assignments submitted by e-mail. If you don't staple your assignment, you will be penalized by an extra 5%.

Q3: What if I'm unable to write the mid-term exam on Feb 13?

A3: Should you fail to write the mid-term on Feb 13, you must request special permission from me to write the make-up mid-term in class on Feb 16. Consequently, only students writing a make-up mid-term are required to attend class on Feb 16. Should you not write the mid-term on Feb 13, and don't write the make-up mid-term on Feb 16, the 20% weight of the mid-term will be added to the Final Exam.

Q4: How is the 10% for attendance and participation handed-out?

A4: I will take attendance of a random group of students every class. Should you not be in class when your name is called, you will lose one mark. You will get a lot more out of this course if you attend regularly and ask a lot of questions.

Q5: What's the format of the assignments?

A5: The first assignment will consist of theoretical and empirical questions related to the work-leisure trade-off. Some graphs, a bit of math, and an ability to analyze movements in economic variables over time are required. The second assignment will require participation in an online video game, which will (a) teach you about economics in a fun way, and (b) demonstrate how video games can be used for educational purposes. Your grade will depend on the score you achieve relative to your classmates (i.e. highest score gets 100%, lowest score gets 50%, and those who don't participate get 0%). The third assignment will consist of an essay, to be written on one of five topics that I will assign. You will need to research a topic in-depth, and base your arguments on empirical evidence.