



## ***Teaching Economics Using Fantasy Football***

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### **Abstract**

We present an assignment that uses fantasy football to teach economics and bridge the gap from classroom to external environments. A fantasy football league is an attractive option for instructors because many already play fantasy football; the league is conducted almost exclusively outside of class; and there are very low costs to instructors of implementing the league. Fantasy football can be an effective tool for teaching many economic concepts, including opportunity cost, comparative advantage and gains from trade, markets behavior including supply and demand shocks, consumer surplus, imperfectly competitive markets, game theory, and market interventions.

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## **1. Introduction**

“If academic economists teach students that economics is a powerful social science because it explains how the world around us works, economists must teach students to apply an economic way of thinking not only to general economic issues but also to their daily lives” Leonid Krasnozhon (2013) p. 140.

Economists spend years submersed in the study of economics. These years of study endow economists with the ability to see economic principles in action in nearly every aspect of their daily lives. Students new to economics do not have the skills or knowledge necessary to make such observations. Because the application of basic economic skills has the ability to improve every-day decision-making, one of the primary goals for principles of economics educators is to teach the broad applicability of economics to their principles students.

One of the beautiful features of basic economic skills is that most students already use and understand the underlying principles. Students recognize tradeoffs, gains from trade, and opportunity costs in many scenarios, even if they are unable to pair their concept recognition with the appropriate terminology.

In this study, we present an assignment that uses fantasy football to teach economics and bridge the gap from classroom to external environments. We selected fantasy football as a framework for teaching economic skills for three major reasons. First, fantasy football is widely played and understood, particularly among the demographic group of traditional undergraduate students. This creates low initial costs of learning how to play the game for most students and it immediately demonstrates that economic concepts can be integrated into activities external to the classroom.

The National Football League (NFL) is the most-watched sports league in the United States. Every year 64% of Americans watch at least one NFL game (Braverman, 2011). Parallel with the growth in NFL viewership, fantasy football participation has increased dramatically. In 2011, 22% of Americans ages 18-34 spent some amount of time on fantasy football (Braverman, 2011). Nesbit and King (2010) report that, as of 2009, fantasy sports had 18 million participants and generated \$2 billion annually.

Second, fantasy football is played almost exclusively outside of the classroom, eliminating most of the opportunity cost traditionally associated with class games and activities. This allows the instructor to continue class lectures as normal, while the fantasy football league supplements lectures outside of class. Third party hosting sites have already developed technology to help maximize fantasy football participation by making the software user-friendly and widely accessible. Students can make league decisions on their computers or on mobile devices using pre-created apps. The apps allow the students the freedom to take their fantasy team and thus their economic assignments/lessons with them to just about any destination. Conveniently, a typical fantasy football season also runs almost exactly the length of a typical fall semester course.

Finally, the implementation of a fantasy football league comes with very low costs to the instructor. Online websites provide all of the materials necessary to run a league at no monetary cost and we provide simple instructions and sample questions for instructors to use in the appendix of this manuscript. Of course, if the instructor also enjoys the NFL or playing fantasy football, a classroom fantasy football league can be very fun and a great way to connect with students.

## **2. Literature Review**

Recent innovation in economics pedagogy have focused on developing and implementing classroom games to make “the dismal science” more enjoyable, accessible, and comprehensible to students. Holt and Capra developed a project for students to participate in the prisoner’s dilemma (2010), Gold and Gold developed an interactive microeconomics simulation (2010), Corrigan developed a game of externalities involving the trading of pollution permits (2011), Diduch (2010) utilizes a classroom game to explore patents and R&D, Green (2014) uses a classroom simulation to illustrate the effects of macroeconomic policy, and Holder et al. (2016) have students make economics-related music videos.

Empirical evidence supports the hypothesis that economics games and experiments improve student achievement and retention in principles classes (Gremmen and Potters, 2007; Durham, McKinnon and Schulman 2007; Dickie 2006, Emerson and Taylor 2004), although games and experiments have not been shown to increase the number of students majoring in economics (Emerson and Taylor 2010). Similarly, Hoffer (2014) and Rousu et al. (2015) note that, while dedicating precious class time to games can carry a large opportunity cost, the benefit of using the classroom games can substantially improve student learning.

The choice of which games and how many games to integrate into a course ultimately depends on course-specific learning objectives and how individual instructors can integrate games into their course. Blanco et al. (2012) state “the long term goal is to support the integration of games in broader courses where they can coexist with other materials, minimizing the impact on the educators’ workload” (p. 305).

Nesbit and King (2010a, 2010b, 2012) have pioneered the empirical research on fantasy sports. Their results indicate that fantasy football participants are more likely to watch NFL games (2010b) and attend NFL games (2010a) and fantasy baseball participants are more likely to attend baseball games (2012). We hypothesize that a flexible, low-cost economics fantasy football league will not only increase student interest in professional football, as Nesbit and King (2010a, 2010b) have found, but the league will also increase student interest in economics.

## **3. Fantasy Football**

Fantasy football assigns virtual ownership role of a fantasy team to an individual. Each team owner drafts players from real NFL teams to create their unique roster. Each players then earn points for the owner based on their performance in the live games each week. A table which outlines the ESPN.com standard performance-to-fantasy scoring guidelines can be found in the Appendix Assignment Sheet. Owners play head to head match-ups with other teams in their league every week. Each owner tries to achieve the highest possible output – total points – from a combination of inputs: one quarterback, two running backs, two wide receivers, one tight end, one flex player (owners choice of running back, wide receiver, or tight end), one kicker, and one team defense. The team with the highest

score in each head-to-head match is the victor.<sup>2</sup> The owner with the most wins at the end of the season is the league winner.

To begin the season, the owners participate in a live snake-style draft in which they take turns picking players.<sup>3</sup> Each NFL player may only be drafted by a single owner. The draft continues until each owner has selected a roster of 16 players (a typical draft will take no longer than 60 minutes and can be completed with automated computer assistance). All undrafted NFL players enter the free-agent pool.

Once the draft is completed, the rosters that owners possess are their roster for the entire season. Line-up changes within the season are made via bi-weekly free agent silent auctions or trades, but roster sizes can never exceed the maximum of 16.

Owners are endowed with \$200 virtual currency for the season to be used in free agent silent auctions. Once each auction period concludes, the owner who placed the greatest bid secures the rights to that player, subtracts the amount of money bid on the player from the owner's remaining virtual currency, and must consequently surrender the rights to a different player in order to avoid exceeding the maximum roster size. In-season trades typically require instructor or league approval before being passed.

#### **4. Implementation**

American football, and thus American fantasy football, tends to be most popular among American males. Instructors may wish to make alter the assignment based on their demographic makeup of their students.

American football and the corresponding scoring system can be substituted for alternative sports. ESPN.com offers similar, free fantasy leagues for NHL hockey, Premier League soccer, UEFA champions league soccer, and Italian Serie A soccer. There are also leagues for fantasy basketball, fantasy baseball, and Yahoo.com provides fantasy NASCAR. Such a variety of fantasy sports may provide instructors with options to accommodate the interests of their students.

While males are more likely to be interested in sports (and fantasy sports), no empirical evidence suggests that males outperform females in fantasy sports. Easily accessible free information, combined with poor forecasting of fantasy results (similar to unpredictability associated with the NCAA men's basketball tournament), makes fantasy sport outcomes highly variable and unpredictable. The possibility exists that familiarity with fantasy football may grant access to social clubs (some work-related) that may otherwise be inaccessible.

In order to most successfully implement the fantasy football assignment, instructors may find it important to introduce the assignment as early as possible in the semester. The NFL season usually beginning the first week of September, so instructors may need to introduce the first day of class depending on when the fall semester begins. Providing students more time to prepare will make the league run more smoothly.

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<sup>2</sup> All scoring, drafting, and auctions are calculated automatically by the third-party site (e.g. ESPN or Yahoo) and all such settings can be changed by the instructor (league commissioner) if desired, but league defaults represent the most popular settings.

<sup>3</sup> More detail on this process can also be found in the Appendix Assignment Sheet.

It is also possible that many students will be unfamiliar with the league software. While the fantasy football host sites are relatively user friendly and include message boards, opportunities to mock draft, and detailed instructions, a quick tutorial from the instructor exemplifying how to draft and how to set a lineup may go a long way. A two-minute recorded video would likely do the trick.

## **5. Concept Modules**

In this section, we describe how instructors can use fantasy football to teach seven core economics concepts – opportunity cost, comparative advantage and gains from trade, markets behavior including supply and demand shocks, consumer surplus, imperfectly competitive markets, game theory, and market interventions. A sample assignment sheet and sample quiz/test questions are outlined in the appendix.

### **5.1 Opportunity Cost**

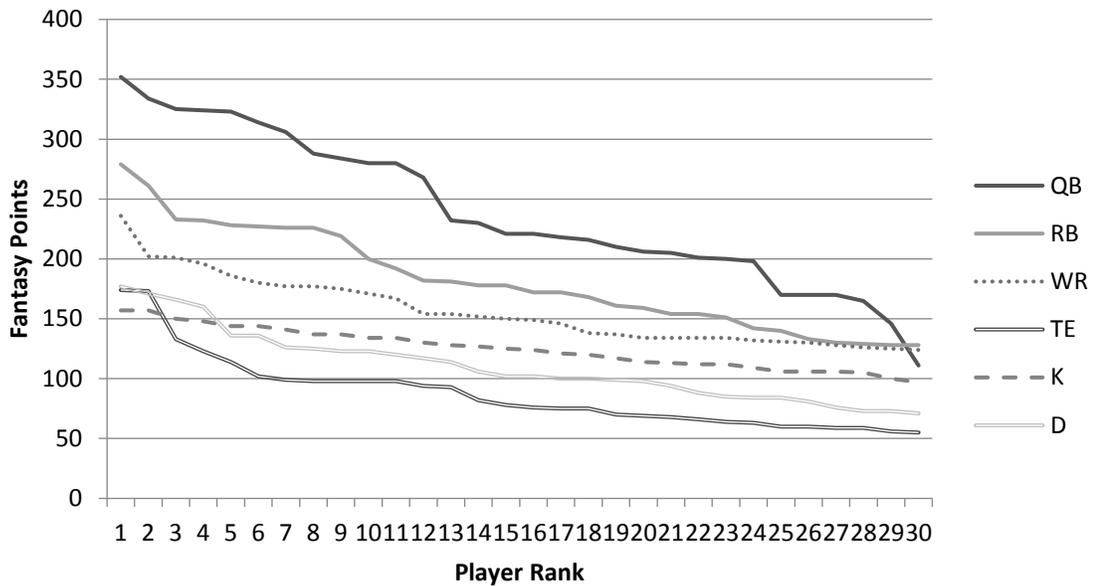
Opportunity cost is the value of the highest alternative that is given up in order to engage in an action. Textbooks commonly present opportunity cost in the context of companies or countries making production decisions. However, presenting this concept from the perspective of the firm can make the opportunity cost difficult for students to grasp. Fantasy football puts the student in the position of the firm, presenting students with a hands-on experience to learn opportunity cost.

Students will experience opportunity cost on draft day when they are making decisions regarding which players to draft. They will have to weigh the opportunity cost in points produced (total output) of drafting one player (a production input) over the other. For example, a student might have to give up drafting a top wide receiver to fill a need at running back. These opportunity costs can be quantified using the preseason point projections offered by league hosting website. The immediate opportunity cost of drafting that running back (e.g. Jamaal Charles – projected 228 points) is the expected fantasy points of the wide receiver (e.g. Calvin Johnson – projected 236 points).

Students must also consider the opportunity cost of picking a player based on who could replace that player on the student's roster with a late-round pick. That is, if a student decides to pick a running back in the first round (thus not picking quarterback or any other player with their first draft selection), than the opportunity cost of *not* picking a quarterback (e.g. Aaron Rodgers – projected 352 points) can be illustrated in the difference in points between the quarterback that the student eventually takes (e.g. Cam Newton – projected 323 points).

Figure 1 presents the ESPN.com projections of the top 30 players at each position. The slope of each curve represents part of the opportunity cost associated with *not* picking a player at a position. The slope for quarterbacks is much steeper than any other position. Therefore, quarterbacks carry the highest opportunity cost for *not* drafting their position.

**Figure 1 2013 Projected Fantasy Points Scored by Player Position Rank**



Data Retrieved From: <http://games.espn.go.com/ffl/tools/projections?&seasonTotals=true&seasonId=2013>

The opportunity costs associated with a fantasy football draft parallel those discussed in a typical principles course. Owners have a fixed amount of draft picks (resources/inputs). In order to produce more fantasy points from running backs (by using earlier draft picks on running backs), they must surrender fantasy points from wide receivers (using later draft picks on wide receivers).

Opportunity cost is a recurring concept that students must address every week in a fantasy football league. Throughout the season, students will be faced with line up and roster decisions. Students must weigh opportunity cost when signing a free agent (fixed roster sizes force students to drop a player). Each week, students have to set a starting 9-man roster, with the remaining roster on the bench (points earned by players on the bench do not contribute to the owner’s weekly score). The opportunity cost of putting one running back into a starting roster (e.g. Le’veon Bell) means that another running back on a player’s roster (e.g. BenJarvus Green-Ellis) must sit on the bench. Bye weeks, team match-ups, flex options, and injuries ensure that opportunity cost situations decisions change on a week to week basis.

Once students encounter opportunity costs, we ask them to identify and detail their decision-making through weekly assignments. This process helps students realize and recognize the role and presence of opportunity costs. Students can then more easily apply their knowledge of opportunity cost to firm production and consumer purchasing.

**5.2 Comparative Advantage and Gains from Trade**

A second concept that fantasy football illustrates very well is the benefit of trade. Common textbook examples describe two different countries, firms, or individuals with two production possibilities and different opportunity costs. Specialization and trade can make both producers better off.

Fantasy football gives students a first hand experience of gains from trade. If one team has several talented players at one position (thus specializing in that position and possessing a lower opportunity cost of trading one of those players) that team can trade a bench player and fill a potential starting need. Suppose that Owner A owns Drew Brees (QB), Nick Foles (QB), Matt Forte (RB), and Frank Gore (RB) and Owner B owns Jay Cutler (QB), LeSean McCoy (RB), Trent Richardson (RB), and Darren McFadden (RB). Then, suppose Jay Cutler gets injured. Owner A and Owner B can mutually benefit from the following trade: Nick Foles (QB) for LeSean McCoy (RB).

Students are able to see that when they have a smaller opportunity cost for a position player (Owner A cannot start two QBs and Owner B has three talented RBs), they can be better off trading with a team that has a smaller opportunity cost in a different position. Students will be able to more easily identify comparative advantage and recognize gains from trade that occur from each team trading in the area when they possess the comparative advantage.

### **5.3 Markets: Supply, Demand, and Shocks**

In fantasy football, market forces are illustrated in several ways. The simulation begins with an auction for production inputs. Player values and projected draft positions (prices) are generated as functions of both supply and demand. Running backs are traditionally ranked with the highest draft value because every team needs two or three starting running backs and the supply of quality (starting) running is low. Conversely, because NFL teams utilize between two and seven WRs, the supply of WRs is substantially greater than the supply of either QBs or RBs. Therefore, WRs tend to go lower in the draft.

In 2013, the six highest rated players (and 12 out of the highest 20 rated players) on ESPN.com were RBs. The highest rated WR (Calvin Johnson) was ninth and only four WRs were ranked in the top 20 players.<sup>4</sup>

Students will also be able to experience exogenous supply and demand shocks throughout the season. A single injury can have an enormous effect on a fantasy team and changes the landscape of existing league markets. If an owner loses a starting player to injury, the owner must look to fill that vacancy. The two primary means of filling a vacancy are through the free-agent silent auctions and by trading with another team. Instantly, due to an injury (and often there are multiple injuries during every week of the NFL season), the demand curves for the injured players' positions shift to the right, while the supply curves of quality players at those positions shift to the left.<sup>5</sup> The resulting increase in price can easily be illustrated through both waiver wire bids and relative trade prices.

Bye weeks also shock supply and demand. During weeks 4 through 12 of the NFL season, some teams do not play (usually two to six teams have a bye each week). If one or multiple starters on an owner's roster are on a bye, that owner needs to fill those vacant starting positions. Depending on injuries, market conditions, and bench players that the owner possesses, owners may turn to the free

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<sup>4</sup> In auction drafts (a popular alternative to the traditional, snake-style, draft), the average price paid for the top 60 running backs was \$15.77 while the average price of the top 60 wide receivers taken was \$10.68.

<sup>5</sup> When a starting player is injured in the NFL, his replacement is, almost exclusively, a worse fantasy player. For instance, when a team's starting running back is injured, the team may replace the injured back's productivity by using several players (a third-down specialist, a short-yardage specialist, or simply splitting the carries among many other running backs). Whereas a single RB may have earned 20 fantasy points, his three replacements may only earn six points each. Therefore, the ability for fantasy owners to earn fantasy points through RBs decreases, shifting the supply curve to the left.

agent pool to fill their starting roster. Weeks with multiple teams on a bye (and/or injuries) creates greater demand in the free agent market, forcing teams to spend more of their waiver money in order to get bye week replacements. Bye weeks also affect the demand on the trade market. Players who have already had their bye week get higher value on the trade market because the owner will not have to find a bye week replacement for them later in the season.

Instructors can also shock supply and demand by placing restrictions on player usage. For example, an instructor may place a temporary restriction on the use of all NFL RBs who have more than 50 rush attempts for the season. This would decrease the short-run demand for players with 50+ rush attempts and increase the demand for RBs with less than 50 rushing attempts.

#### **5.4 Consumer Surplus**

Consumer surplus measures the difference between what the consumer is willing to pay for a good compared to what the consumer actually pays for that good. Textbooks typically present consumer surplus to students by illustrating simple supply and demand curves and identifying that consumer surplus is the area above the price and below the demand curve.

Using a fantasy football draft and auctions – paired with a draft/auction log completed *a priori* with maximum willingness to pay values – students can gather immediate feedback on consumer surplus. In the draft, players should pre-rank the order in which they want to draft players. Therefore, if a student is able to draft his or her second-ranked player, for example, with the fifth overall pick, they immediately experience consumer surplus (more frequently termed “draft steals” in both real and fantasy drafts).

In free-agent auctions, owners may enter bids less than their maximum willingness to pay for a player and, again, instantly realize (and quantify) their consumer surplus. It is not uncommon for owners to enter \$1 bids for free agent players (who may be luxury players or low-probability, high-scoring players) in hopes of capitalizing on an information advantage over other players, even if an owner has a maximum willingness to pay that is more than \$1.

#### **5.5 Market Power and Imperfectly Competitive Markets**

Monopolies and oligopolies exist when there is only one producer, or a small group of producers in a market. In fantasy football, market can be exerted when a single team has a large number of quality players at a single position. The fewer teams that are sellers in the market for each position, the more individual sellers will be able to charge.

#### **5.6 Game Theory**

Game theory is the study of strategic decision-making. Fantasy Football forces students to make numerous decisions, almost all of which are based on the decisions of other league members. Perhaps the clearest examples occur during the initial talent draft. Every draft selection that a student makes is based on what that student expects other students will do. The only reason that a player should use a higher draft pick on a player is if that student expects that another student will draft that player before the student’s next turn to select a player. An owner should not draft Tom Brady with their first opportunity to select a player if that player could use their second draft pick to obtain Tom Brady.

Additionally, students have to take into account the preferences of other owners in the league. Because value is subjective, students in a league with owners who are prominently Seattle Seahawks fans might have to use a 5<sup>th</sup> round pick on Russell Wilson compared to a more realistic value of a 8<sup>th</sup> round pick. Likewise, students may benefit by not discriminating. By allowing other students to overpay for certain players (draft earlier than valued), an individual may be able to make a stronger team by selecting from the discriminated against pool of players (e.g. non-Seahawk players). Students can be asked to identify that their subjective value may have caused them to overpay (based solely on performance).

Game theory questions (presented in the Appendix) ask students to analyze optimal draft selection decision-making for an owner, given the decisions made by another player. Students are asked to identify that Owner 10 will not want to draft a QB with their third pick because they already drafted a QB with an earlier pick and fantasy owners can only start one QB each week. Once students identify that Owner 10 will not want to draft a QB and Owner 10 is the only owner to draft between Owner 9's two draft selections, students should identify that Owner 9 can maximize her potential fantasy point by drafting a RB with her first selection (pick 29) because she can still draft the QB with her next selection (pick 32).

Similar to analyzing other owners' expected draft picks, each owner should predict what they expect their opponents to bid on free agents in waiver wire auctions. If the player up for auction plays a position which few other teams need, the owner may conclude that few others will be bidding on that player. An owner need only bid \$1 more than the second highest bid. If no other players bid, an owner can obtain the rights to a free agent with a bid of \$1.

## **5.7 Market Interventions**

Market interventions most commonly occur when governing bodies place certain restrictions or criteria on transactions. Any deviation from the free market equilibrium (absent market failure) will cause inefficiency in that market. Traditional government policies discussed in principles courses are price ceilings, price floors, taxes, tariffs, quotas, and antitrust policies.

An instructor could easily implement a trade tariff, a free agent signing tax (sales tax), and/or a trade deadline. Most leagues have a rule in which no trades can take place after a certain week.

League commissioners can also veto uncompetitive trades.<sup>6</sup> The trade veto mirrors the role of the government in promoting competitive markets.

## **6. Results from a Case Study**

In the fall 2014 semester, we implemented the fantasy football assignment in a principles of microeconomics class with 28 students. Each student was given ownership of their own fantasy

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<sup>6</sup> Fantasy league trades rely on internalizing the trade benefits within the league. That is, Owner A cannot offer Owner B a cash payment (external to the league) in order to make Owner A's fantasy team much better and Owner B's fantasy team much worse (Owner B may accept the trade if a cash payment would make Owner B better off). This is particularly important if the fantasy football league results are included in course grades.

franchise. The class was divided into three 10-team leagues with the instructor participating in two of the leagues to bring the team total up to 10.<sup>7</sup>

The results from the fantasy football leagues and graded assignments are presented in Table 1 separated by gender. One of the primary concerns with this assignment was relative interest and performance by gender. An *a priori* concern was that females would be less interested and females would perform worse on the grades assignments and learning assessments. We found the opposite.

**Table 1 Average Scores and Production from a Fantasy Football Assignment Case Study By Gender**

	<b>Participation Points (out of 30)</b>	<b>Concept Points (out of 65)</b>	<b>Total Fantasy Assignment Points Earned</b>	<b>Fantasy Points Produced</b>	<b>Fantasy Winning Percentage</b>
<b>Males</b>	24.64	49.64	74.64	742.93	0.46
<b>Females</b>	23.40	57.67	81.80	731.75	0.54
<b>Difference</b>	1.24 (2.69)	-8.02 (4.59)*	-7.16 (5.96)	11.18 (35.02)	-0.09 (0.07)

\*difference is statistically significant at the 10 percent level

On graded assignments, females significantly outperformed males on the economic concept assessment assignments, shown in column two. Males slightly outscored females on average on participation points, but because the concept points were more heavily weighted, females outscored males on total fantasy football assignment-related points with an average of 81.8 points compared to 74.6 points for males. Neither the difference in participation points nor the difference in total points between males and females was statistically different from zero.

Female students won all three class leagues. Males students averages a slightly higher season fantasy point total (11.18 points over the course of a season or a little more than one point per week), but female students had a greater average winning percentage, 54 percent compared to 46 percent. Anecdotally, we found that females learned more overall than males in the assignment because more females were previously unfamiliar with fantasy football. We consider this to be a benefit of the assignment as it will hopefully decrease informal, social barriers that a workplace fantasy football league may generate.

## 7. Conclusion

Fantasy football leagues offer an effective and entertaining means of illustrating and teaching many different economic concepts. This study presented a fantasy football assignment that could be

<sup>7</sup> The instructor’s team was selected via autodraft – selected by a computer on the host website’s server. Throughout the season, the instructor participated as if he were a competitive member of the league. The instructor’s results were omitted from the empirical analysis.

easily incorporated into an economics course. The fantasy football league is an attractive option for instructors because a majority of students watch professional football and many already play fantasy football; the league is conducted almost exclusively outside of class; and there are very small costs to instructors of implementing the league. We discovered that a fantasy football league is an activity which students will enjoy and one which will hopefully get students excited about economics. We conducted pilot versions of the league during the 2012-2013 academic year. After incorporating student feedback and improving the assignment, we plan to conduct a two-year experimental study to assess the effects of the fantasy football league on student learning and student interest in economics beginning in the fall 2014 semester.

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**Appendix: Assignment Sheets and Questions**  
**Fantasy Football Assignment Sheet**

An ongoing assignment that you will have this semester will be the participation in a fantasy football league. The purpose of this game is to help you better grasp the basic concepts of this course.

You will be placed in a league (group) with nine of your classmates. Each one of you will be assigned ownership of a virtual fantasy football team on ESPN.com. To start this assignment, you will be required to draft players to your team. Each league will have a separate draft that should last no longer than an hour. If you do not already have an ESPN.com account you will have to create one, they are free and take less than a minute to create. ESPN.com offers a host of resources for first time drafters if you are interested in doing pre-draft research.

The players you draft will earn you points based on their performance in live NFL games each week. The rate of statistical performance conversion to fantasy points is described below.

**Default Scoring System for ESPN.com Standard Leagues**

<b>Player Action</b>	<b>Points Awarded</b>
Passing TD	4
Every 25 Passing Yards	1
Passing 2pt Conversion	2
Interception Thrown	-2
Rushing TD	6
Every 10 Rushing Yards	1
Rushing 2pt Conversion	2
Receiving TD	6
Every 10 Yards Receiving	1
Receiving 2pt Conversion	2
Fumble Lost	-2
50+ Yard FG Made	5
40-49 Yard FG Made	4
0-39 Yard FG Made	3
PAT Made	1
FG Missed	-1
Any Defensive Return for TD	6
Defensive Interception	2
Defensive Fumble Recover	2
Defensive Safety	2
Sack	1
0 Points Allowed	5
1-6 Points Allowed	4
7-13 Points Allowed	3
14-17 Points Allowed	1
18-27 Points Allowed	0
28 Points Allowed and up	-1

Your goal is to get as many points from a combination of one quarterback, two running backs, two wide receivers, one tight end, one flex player (owners choice of running back, wide receiver, or tight end), one kicker, and one team defense. You will play head-to-head against another classmate every week. The team with the highest score in each head-to-head match is the victor. The student in each league with the most wins will be the winner of the league.

The draft will be a snake-style draft<sup>8</sup> and beginning draft positions will be assigned randomly about an hour before the draft begins. Each NFL player may only be drafted by a single owner. There will be 16 rounds in the draft. Once the draft is completed, your roster is the roster that you will possess for the entire season.

Line-up changes within the season are made via bi-weekly free agent silent auctions or trades. However, your roster can never exceed 16 players. Therefore, if you add any player to your roster, you must consequently surrender the rights to a different player in order to avoid exceeding the maximum roster size.

After the draft, you will be endowed with \$200 virtual currency for the season. You may use this virtual currency to place bids on free agent players whose rights have not been previously claimed by another owner. Once the auction period concludes, the owner who placed the greatest bid secures the rights to that player. You are also welcome to trade with any other player in your league. In-season trades must be approved by instructor before being implemented.

You are not required to watch your players' games each week, however, a large part of your grade for this project is participation. You must have a full, valid line-up with all positions filled by players who have games that week (you cannot start a player on that player's bye week unless the best available player is projected to yield you negative fantasy points that week). Information can be costly, so additional research into player selection can return greater points and a higher likelihood of winning each game. Each starting lineup will consist of one quarterback, two running backs, two wide receivers, one running back/wide receiver, one tight end, one kicker, and one team defense. The remaining players on your 16-man roster will be on your bench. Players on your bench will not earn you fantasy points that week.

Throughout the season there will be assignments in conjunction with several class lessons. Some of these assignments will ask you to alter your team in some way.

**Grading Criteria:**

Participation: 30%

Assignments: 70%

Standings: up to 5% Bonus

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<sup>8</sup>For more on snake drafts, visit <http://games.espn.go.com/ffl/resources/help/content?name=drafts-live-online>

### **Draft Log Assignment (Answers will vary)**

Before and during your league draft, you will need to keep a brief draft log that you can refer back to for future assignments.

(1) Before the draft, pre-rank your top 30 most-wanted players.

(2) In rounds 1-3, record the player you actually drafted and whether or not you would have to spend a higher pick on that player (if you had a better pick).

(3) For your first three picks, why did you select the player you selected?

(4) For the remaining 14 rounds, list the top two players that you would like to pick in this round. Then, record the player you actually picked.

Bring your log, complete with your answers to the next class.

### **Opportunity Cost Questions**

1) Identify the first player you drafted. What was the opportunity cost of drafting that player?

**Answers will vary, however student should show understanding of the positions that they gave up in order to draft the player they did.**

2) Identify your ninth round pick. What was the opportunity cost of drafting that player? Was the opportunity cost was greater for your first round pick or your ninth round pick?

**The opportunity cost of the player that was drafted in the ninth round will be lower than the opportunity cost of the player drafted in the first round.**

3) When did you draft your kicker? How high was the opportunity cost of drafting a player who does not score as many points as a position player?

**The opportunity cost of drafting a kicker is higher than drafting a position player because of the lower point values that they earn. This makes it so kickers are generally drafted later in the draft.**

4) How did opportunity cost play into the decisions you made during the draft?

**Students should show that in every round they choose the player with the lowest opportunity cost.**

### **Game Theory Questions**

While drafting, how did the actions of others affect the players that you drafted?

**Answers will vary, but this question solicits students to identify the role of others' actions in personal decision-making. Each team only needs a certain number of position players, therefore an owner could hold off picking a position you need if others have already picked a player at that position.**

If there was only one top player at a position available, how did you decide if you should draft that player or wait until the following round?

**Students should have looked to the future teams that were picking and by understanding the decisions they were most likely to make, and then base their decisions from that.**

How did your position in the draft affect this decision (having the last pick in a round compared to the first pick)?

**Students should understand that having a longer period of time between two picks meant top players would not be available for their next pick.**

How did you determine your bid for a free agent? Why didn't you just bid \$1 for every player?

**Knowing that other owners would most likely bid high for a top free agent effected each owners decision to bid higher. Understanding who may be valuable to others determines your bid.**

Hypothetically, if you lost all the money that you bid on a player regardless of if you were the highest bidder or not (thus not receiving the player) how would this effect your bidding? Would you bid more to ensure you got the player no matter what or would you bid less since there is more of a risk?

**Answers may vary but generally students will say they bid more to ensure they got the player.**

Analyze the optimal decisions for the following two players in a 10-team snake draft (identical to the draft in our class). Starting with pick 29 (the end of round 3), the pick order is:

Pick 29 – Owner 9

Pick 30 – Owner 10

Pick 31 – Owner 10

Pick 32 – Owner 9

With their earlier picks, Owner 9 secured Demaryius Thomas (WR) and Arian Foster (RB) and Owner 10 secured A.J. Green (WR) and Peyton Manning (QB). When it is Owner 9's pick at pick 29, the highest projected players available to be drafted (and the players that Owner 9 wants most) are Drew Brees (QB), Andre Ellington (RB), C.J. Spiller (RB), and Randall Cobb (RB).

Given an owner can start 1 QB, 2 RBs, and 3 WRs each week, rank the order in which Owner 10 would demand the four players, assuming that no owners are willing to trade. (Brees, Ellington, Spiller, and Cobb).

**Andre Ellington, CJ Spiller, Randall Cobb, Drew Brees**

Why does Owner 10 rank the players in that order?

**Because Owner 10 already has a QB and a WR so they are more in need of securing a running back to start.**

Given Owner 10's preference for the four available players, who should Owner 9 draft with Pick 29?

**Andre Ellington**

Why?

**Because Owner 9 knows that Owner 10 will not pick Drew Brees so they can wait for pick 32 to take him and still get Andre Ellington**

Who should Owner 9 draft with pick 32?

**Drew Brees**

Why?

**To fill the need that they have at QB, he is the highest rated player at the position they need.**

**Consumer Surplus Questions**

1) Who was the player you selected with your first pick? What is the highest pick you would have used to take that player?

**Answers will vary from student to student**

2) What pick did you use to select that player?

**Answers will vary from student to student**

3) Did this generate a consumer surplus for you?

**The consumer surplus will be the difference between the answers of questions 1 and 2.**

4) What was this surplus?

**Answers will vary from student to student**

5) How did your “maximum willingness to draft” effect your drafting decisions?

**Owners should have never drafted a player higher than their maximum willingness to draft, and tried to draft that player as late as possible and still make sure they secured the player.**

**Supply and Demand Questions**

The League Commissioner (professor) will produce three different lists once the season has started. Each list will correspond with a certain league and have player names that are not allowed to play in the upcoming week.

Identify all teams that have a bye week this week

**Answers will vary based on bye weeks.**

What players on your team have a bye this week?

**Answers will vary based on bye weeks.**

What changes did you have to make in order to accommodate this week’s rule?

**Owners will have to pick up additional free agents and play some of their bench players.**

What effect did this have on the free agent market?

**It made the top free agents more valuable; it increased the demand for free agents.**

How did this affect the scores of the games this week?

**It will reduce the amount of points that are scored by each team.**

How does it affect future decisions that you may make?

**Knowing that these players may be unavailable at any time, owners will not want to trade for them, and they will have more back ups at these positions on their bench.**

Would you be willing to trade one of your ineligible players for this week for a double point scorer?

**Answers will depend on each individual player, however this will illustrate the shift in demand for certain players.**

Draw a graph of the supply and demand for Running Backs both prior and after the ineligible list came out. What shifted and why?

**Answers will vary based on existing markets.**

### Trade Questions

Identify one trade with another person in the class that would be mutually beneficial and describe the teams and players involved.

Why would this trade be beneficial to both parties?

**Answers will vary**

As a consequence of your trade, both teams must release an additional player into the free agent pool. Would you still want to execute this trade? Why or why not?

**This question will illustrate how taxes can potentially stop mutually beneficial transactions**

What economic concept does this demonstrate?

### **Taxes or Tariffs**

Now identify a trade that benefits both parties, however this trade cannot include a player that is ranked among the top ten players at a position. Was this more or less difficult and why?

**Answers will vary**

What economic concept does this demonstrate?

**Answers will vary**

**Monopoly Questions**

Would this be fair to all other teams in the league?

**Probably not. The merged team would likely have an advantage in both talent and resources**

With these teams making decisions together, in what ways can they change the free agent market?

**They can add players to their bench that won't play, but still not allow other teams to have them.**

Should there be a rule against this or should teams be free to trade and place their resources where they choose?

**Answers will vary from student to student**

**Summary**

At the conclusion of the league, students can reflect on their decisions and provide feedback regarding the assignment. Specific questions may include:

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What economic concept did you notice correspond with your team the most and why?

Which other economic concepts did you notice within your league?

How can you see economic concepts interact with your life outside of class and outside of fantasy football?