



FLORIDA ATLANTIC UNIVERSITY

ECONOMIC IMPACT 2012

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PURPOSE AND SCOPE OF STUDY

Investments in institutions of higher learning are particularly critical in these challenging economic times. Higher education makes possible a richness of life: rewarding careers, exposure to world culture, knowledge of human history and individual growth and achievement. The societal and cultural benefits of an educated population immeasurably improve the quality of life for all citizens. Furthermore, institutions of higher education have a direct impact on the economic success of a state and region. In other words, higher education pays dividends in both tangible and intangible ways.

The purpose of this study is to measure the tangible economic contribution of Florida Atlantic University (FAU) to the state of Florida's economy. Since its dedication ceremony in 1964, FAU has been a leading center of higher education with a commitment to the economic development of South Florida and the Treasure Coast as well as the entire state. Through visionary leadership and a strong proactive approach, FAU has become a recognized and respected academic brand with significant market influence in areas that include biomedicine and biotechnology, ocean engineering, coastline security and marine science as well as the arts.

Florida Atlantic University's service area encompasses six counties, stretching more than 150 miles along the state's southeastern coastline. According to the 2010 U.S. Census, this service area has a population in excess of 3.6 million, which makes it more heavily populated than 21 states. FAU's service area would rank between Oregon and Connecticut if it were a state.

FAU's 10 colleges offer more than 170 undergraduate and graduate degree programs to a student body that ranks as the most racially, ethnically and culturally diverse in Florida's State University System. FAU's first and largest campus in Boca Raton occupies more than 850 acres and includes state-of-the-art labs and classrooms, suite-style housing for students plus athletic and recreational facilities. It is also home to the Karen Slattery Educational Research Center for Child Development, the Alexander D. Henderson University School, FAU High School, the Florida Atlantic Research and Development Park and the nation's largest Lifelong Learning Society.

FAU is a major economic driver as a purchaser of goods and services from private businesses and employer of 3,543 men and women, who, in turn, spend their income in the local market. FAU graduates and students also hold jobs in the region, and alumni, students and visitors alike purchase goods and services in the local economy.

All of these expenditures are magnified throughout the market as the employee compensation and business revenues are further cycled through the local economy, multiplying the economic impact on the region.

The purpose of this study is to quantify the monetary contribution FAU makes to the state and local economies. Economic impacts have been separated into two categories: direct impacts, which result from first-round spending from FAU operations, construction costs and spending by FAU employees, students, visitors and alumni; and indirect and induced impacts, which comprise the second round of spending throughout the regional economy. The total impact of the initial round of spending includes initial direct spending (the direct impact) plus the increased spending as the various supplying industries expand (known as the indirect impact) and the increased spending as employees in the expanding industries expend their earnings on consumer goods and services (known as the induced impact).

SCOPE AND LIMITATION OF STUDY

In order to estimate the total monetary contribution that FAU makes to the state economy, one has to consider more than just the direct expenditures made by the institution itself. There is a ripple effect of the expenditures made for goods and services supplied to FAU. Wages paid to employees are spent on housing, food, clothing, entertainment, etc. Likewise, business revenues generated from supplying goods and services to FAU are paid out in wages and material costs, which, in turn, are spent on living costs. This multiplier effect enlarges the economic impact of the initial FAU expenditures.

This study is confined to the economic contribution of FAU's institutional expenditures and payroll, student and alumni expenditures, and student visitor expenditures. It does not measure the economic contribution of visitors' spending at FAU recreation, sporting or professional events, contributions of tax revenues, monetary impacts of technology licensing to spinoff companies, the economic impact of faculty and staff earnings from private consulting, book and patent royalties, the economic contribution of faculty and staff expertise used by state businesses and organizations or a host of other collateral economic activities.

With this in mind, the economic impact of the FAU reported in this study understates the overall economic impact by the factors mentioned above.

HIGHLIGHTS OF FAU'S ECONOMIC CONTRIBUTION

- **Florida Atlantic University contributed \$3.5 billion to direct spending in Florida in FY 2010-11.**
- **FAU activities are responsible for over 60,450 in-state jobs.**
- **The FAU presence in the state generates a \$4.1 billion increase in Florida's gross domestic product and a \$6.3 billion increase in gross output (sales).**
- **In 2009-10, FAU graduates contributed over \$2.3 billion more in direct economic impacts than high school graduates in Florida.**
- **FAU employees spend over \$241.66 million in Florida annually.**
- **FAU students spend over \$509.90 million annually in Florida over and above tuition, fees and University-supplied room and board.**
- **Visitors to FAU students spent over \$39 million in the state.**

EXECUTIVE SUMMARY

Florida Atlantic University has a large positive impact on Florida's economy. In Fiscal Year 2010-11, the gross output (sales) of Florida was increased by \$6.3 billion and the state's gross domestic product was increased by \$4.1 billion. The University's total impact (direct, indirect and induced) results from University spending on operations (including construction spending and the salaries of faculty and staff) of \$0.9 billion, off-campus student spending (exclusive of FAU financial aid and on-campus employment) of \$0.4 billion, spending by friends and relatives visiting FAU students of \$80.1 million and \$4.8 billion from in-state spending by FAU alumni that is associated with the increase in their earnings due to FAU degrees. FAU activities also have resulted in 60,450 full- and part-time Florida jobs with earnings of \$2.4 billion.

A survey designed to measure student spending was undertaken for this study, and data were collected from 805 FAU students in their classes in January 2012. The average student expected to spend \$13,206.23 during the semester, exclusive of tuition. Spending for room rent, utilities and food and dining accounted for about 40 percent of the expenditures. Transportation accounted for more than a quarter of the expenditures (26.6 percent). Another 15 percent was expended for recreation and entertainment.

INTRODUCTION

This report is divided into two parts. The first section discusses FAU's impact on the Florida economy in Fiscal Year 2010-2011. The discussion also provides a comparison of economic impacts derived from 2010-2011 data to estimated impacts for 2009-10 reported in a Florida State University System (SUS) study¹ prepared for the Florida Board of Governors. The first part of the report ends with a brief description of the methodology used to determine the 2010-2011 impacts.

The second section reports on a recent survey designed to measure the economic impact of student spending. Estimates of average spending per student by category are provided as well as average expenditures by friends and relatives who visit FAU students. These estimates are inputs used in the process of determining the direct impacts of FAU activities on the Florida economy in the first part of the study. There follows a description of the survey methodology and a brief profile of the respondents. The survey instrument is provided as an appendix to the report.

¹ Alan Ian W. Hodges, Thomas J. Stevens, Rodney L. Clouser, and Julie Harrington, Martijn Niekus, and Keith Baker, *Economic Contributions of the State University System of Florida in Fiscal Year 2009-10*. Unpublished report of the SUS Board of Governors, Tallahassee, Florida.

FAU EXPENDITURES AND ECONOMIC CONTRIBUTION

DIRECT IMPACTS

The direct contribution of first-round spending from FAU operations, construction costs and spending by FAU employees, spending by students and visitors, and spending by FAU graduates added **over \$3.5 billion** to the Florida economy in fiscal year 2010-2011. Table 1 contains estimates of the economic contribution of each of these individual factors.

In-state spending of FAU graduates

The greatest direct impact of the University is the earnings differential obtained by FAU graduates who remain in the state over the earnings of Florida high school graduates – **more than \$2.3 billion annually**. The contributions to human capital provided by FAU as an institution of higher learning are increasingly important to the welfare of all Florida citizens as the technological revolution makes increasingly complex demands for new ways of thinking and working in the global economy. The accelerating pace of technology change presents new challenges that demand a highly skilled workforce.

TABLE 1
Direct Expenditure Added to the Florida Economy FY 2010-11

	EXPENDITURE (In \$ Millions)	PERCENTAGE OF TOTAL EXPENDITURE
Education and General (E & G)	\$94.64	2.7
Research (including Henderson School and the FAU Foundation)	\$19.89	0.6
Auxiliaries & Athletics	\$50. 85	1.4
Financial Aid (excluding Stafford Loans)	\$68.30	1.9
Sub-total: University Operations	\$233.68	6.6
Construction	\$103.80	3.0
Faculty & Staff Spending	\$241.66	6.9
Student Spending (Off Campus and Less Financial Aid and Campus Employment)	\$509.90	14.6
Visitor Spending	\$39.50	1.1
Sub-Total : Operations, and Spending by Faculty & Staff, Students and Visitors	\$1,128.54	32.1
Graduate Earnings Differential	\$2,368.00	67.9
Grand Total Direct Spending	\$3,516.54	100.0

FAU EXPENDITURES AND ECONOMIC CONTRIBUTION

According to the Florida SUS study, average annual per-capita earnings for all Florida SUS graduates in the fall of 2010 were \$36,520 for graduates with bachelor's degrees, \$58,698 for master's degrees, \$66,743 for doctorates and \$70,716 for professional degrees. These earnings were significantly higher than those of students with high school diplomas (\$20,924). The average annual earnings differential for all Florida SUS graduates compared to high school graduates was \$21,732, ranging as high as \$49,792 for those with professional degrees. This earnings differential is increasing over time as labor demand shifts in the state from high school graduates to workers who have completed some college coursework.

FAU Expenditures

As shown in Table 1, FAU's fiscal contribution to the Florida economy is also driven by direct spending by the University on operations and construction, as well as spending by faculty and staff, students and visitors, **amounting to \$1.1 billion** for the fiscal year. This was almost twice the estimate of equivalent expenditures made in FY 2005-06 (\$604.3 million). This includes spending on University operations of \$233.68 million. Operations expenditures included utilities, equipment, repairs and maintenance, supplies, travel and entertainment, insurance, professional services and independent contractors, employee training, printing and publications, fees, dues and subscriptions, postage/shipping, rentals and commodities purchased. Expenses for asset depreciation were excluded because this is a non-cash expense. Spending on construction totaled \$103.80 million. Spending for faculty and staff, as measured by their salaries and benefits, was \$241.66 million. Payroll expenditures included salaries and benefits for faculty, administrative/professional and support employees, part-time student assistants and other temporary employees, but not contract employees. Employee benefits included the employer's portion of health, life and

disability insurance payments, Social Security, retirement and worker's compensation. All of these numbers come from the FAU Financial Statements for FY 2010-11 (see Appendix B). The increase in spending reflects the growth in enrollment, since FY 2005-06 includes both the higher student headcount and the increase in full-time students, the expansion of campus housing and increased construction. Added to FAU expenditures is an estimate of student spending (off-campus and net of financial aid and campus employment) of \$509.90 million and \$39.6 million in spending by parents, family and friends who visit students.²

TOTAL DIRECT IMPACT

Direct spending in Florida increased by \$3.5 billion in FY 2010-11 as a result of Florida Atlantic University. This compares to an estimate of \$3.4 billion for FAU in the Florida SUS study (see Table 2). The higher estimate for FY 2010-11 reflects the inclusion of visitor spending, which was not included in the Florida SUS study. The estimate for student spending in 2010-11 reflects actual spending by students as obtained from a survey; the Florida SUS study based the estimate of student spending on Cost of Attendance data available from Financial Aid departments. The Cost of Attendance data reflect the minimum expenditures necessary to attend FAU, not the average amount as obtained from the survey.

The economic contribution that FAU makes to the state is much greater than the direct fiscal spending made by the institution. All the dollars spent by FAU on goods and services recycle through the state economy to be spent again on goods and services by the businesses and citizens that serve FAU. This rippling effect of spending is captured in multipliers that are applied to the direct FAU spending.

² Estimates of student and student visitor expenditures were obtained by means of a survey administered in a sample of classes that was extrapolated to the full student population. Details of the student survey are presented later in this report.

TABLE 2
FAU Direct Spending in the SUS 2009-10 Study and the FAU 2010-11 Study (Millions of Current Dollars)

	SUS 2009-10 STUDY*	FAU 2010-11 STUDY
Operations	\$274.3	\$233.7
Payroll (Faculty & Staff Spending)	\$229.6	\$241.7
Capital Expenditures	\$87.3	\$103.8
Student Spending	\$466.4	\$509.9
Visitor Spending	NA	\$39.5
Graduate Earnings Differential	\$2,388.0	\$2,388.0
Total Direct Spending	\$3,445.6	\$3,516.8

Note: Categories are defined more comprehensively in Table 1.

INDIRECT AND INDUCED ECONOMIC IMPACTS

The indirect and induced monetary impacts resulting from the direct spending identified in Table 1 were obtained using the procedures followed in the Florida SUS study.³ First, direct spending made outside the state of Florida was subtracted since it does not add to the impact within the state. Second, expenditures financed by revenue from sources within the state were subtracted because economic impact is usually measured by sales made to purchasers outside the region. These sales are called sales to final demand and are largely composed of exports. Export sales bring new income into the state and therefore create additional income and production in Florida.

The results of applying the Florida SUS study adjustments to FAU direct spending are provided in Table 3. More than 95 percent of the direct expenditures take place within the state (\$3.4 billion out of \$3.5 billion). Student expenditures had the largest out-of-state component because they contained a high level of direct imports (e.g., purchases downloaded from out-of-state firms). An even bigger adjustment was applied to student spending to estimate the amount delivered to final demand because of the high level of imported products purchased through retail outlets.

³ Hodges et al. pages 18, 19 and 24.

TABLE 3**New Final Demand Added to the State Economy as a Result of FAU, FY 2010-11 (In Millions of Dollars)**

	DIRECT SPENDING	SPENDING IN-STATE	NEW FINAL DEMAND
Operations	\$233.7	\$206.52	\$96.9
Payrolls	\$241.7	\$219.70	\$103.1
Construction	\$103.8	\$103.8	\$103.8
Subtotal	\$579.2	\$530.02	\$303.7
Student Expenditures	\$509.9	\$404.62	\$84.6
Visitor Expenditures	\$39.5	\$39.5	\$39.5
Earnings Differential	\$2,388.0	\$2,388.0	\$2,388.0
Total	\$3,516.6	\$3,362.14	\$2,815.8

The estimates of FAU's total impact on the Florida economy are listed in Table 4. The new final demand calculation (see Table 3) was added to FAU's direct spending number

to estimate the increase in Florida's gross output (largely sales) of \$6.3 billion. Florida's gross domestic product was *increased by \$4.1 billion*.

TABLE 4**FAU's Economic Impact on the Florida Economy, FY 2010-11**

TYPES OF SPENDING	GROSS OUTPUT (In Millions of Dollars)	VALUE ADDED (In Millions of Dollars)	EARNINGS (In Millions of Dollars)	EMPLOYMENT (In Number of Jobs)
Operations	\$948.2	\$590.3	\$361.8	12,110
Student Spending in Florida	\$419.4	\$305.1	\$127.5	4,375
Visitor Spending	\$80.1	\$64.0	\$26.75	834
Graduate Earnings Differential	\$4,838.5	\$3,143.2	\$1,920.3	43,131
Total	\$6,286.1	\$4,102.6	\$2,436.2	60,450

FAU'S IMPACT ON JOB GENERATION

The money that FAU and its associates spend on goods and services generates jobs for Florida citizens. Jobs attributable to FAU occur in four ways. The first category is direct faculty and staff employment for people working at FAU. The second encompasses the jobs generated by non-payroll, in-state FAU expenditures. The third comprises the people who serve the FAU workforce in various professional and occupational capacities, and the fourth concerns the jobs generated by student and visitor spending. As a result of FAU-associated expenditures, it is estimated that **60,450 full- and part-time jobs** were created in Florida with labor earnings of **\$2.4 billion**.

METHODOLOGY

The total economic impact of FAU-related spending was estimated with multipliers generated using a regional economic input-output model for the state of Florida that was constructed with the IMPLAN economic impact modeling

system. The model is derived from a national input-output model that shows inter-industry transactions and how additional spending by each industry is distributed among other industries and final demand (consumers, business investors and foreign buyers). The model also shows how the expansion of an industry will create additional employment and earnings across the entire national economy. In order to apply the model at the sub-national level, it is customized to reflect the different configuration of industries at the state level. That is, the expenditures made by an industry in the process of expanding its output must be reduced by the amount of the expenditures that are made to out-of-state industries. IMPLAN and other regional input-output models enable the derivation of economic multipliers that capture the ripple effects of supply chain spending for input purchases (indirect effects) and household spending by employees (induced effects) to determine final impact on the state's economy, along with direct spending and employment.⁴

⁴ Miller, Ronald E. and Peter D. Blair. *Input-Output Analysis: Foundations and Extensions*. 2nd edition, Cambridge University Press, 750 pages, May 2009.

ESTIMATING STUDENT SPENDING: A SURVEY OF FAU STUDENTS

In the spring of 2012, 805 students completed a survey on their spending habits. The following discussion focuses on the results of the survey and includes five sections. The discussion begins with estimates of the average spending by FAU students. Tuition spending was not estimated from the survey, as the data are available from the University's financial statements. The second section contains estimates of spending associated with friends and relatives who visited students during the semester. The survey provided estimates of the number of "person nights" generated by these visitors. These estimates were then converted into tourist expenditures using data from the Florida Visitor Study published by Visit Florida and the average daily room rates established by the Palm Beach County Tourist Development Council. The third section provides details on the survey methodology, including the sampling procedure, questionnaire design and weighting scheme to correct for under- and over-sampling. A brief profile of survey respondents is presented in the fourth section. The fifth section describes how the results of the survey were used to derive the student and visitor direct spending estimates used in the report's economic impact analysis.

AVERAGE EXPENDITURES BY STUDENTS

FAU's Office of Financial Aid prepares annual estimates of the Cost of Education for students attending the University. These estimates represent the minimum amounts necessary to fund the expenses of attending the University. The survey reported here collected data on actual amounts expended. The reported expenses were usually larger

than the Cost of Education estimates produced by the Office of Financial Aid.

The Office of Financial Aid groups non-tuition student expenditures into four categories: books/supplies, room/board, transportation and personal expenses. Students are divided into three groups based on their housing: students living on-campus, students living off-campus with their parents, and students living off-campus but not living with their parents. Generally, on-campus housing is more expensive than off-campus housing, and living with parents has the lowest room and board costs. Transportation (commuting and other local travel) expenses are lower for students living on-campus than for those living off-campus.

HOUSING EXPENSES

The questionnaire distinguished between two types of students living off-campus with individuals other than their parents: those living with other young people and those living with a spouse and/or children. The latter type of student generally has relatively high housing expenses because many of them live in single family homes. The highest monthly housing expenses (\$1,287.46) were reported by students living off-campus with a spouse and/or children (see Table 5 below). Students living with their parents reported a low monthly housing cost of \$141.74. Students living on-campus reported higher monthly expenses (\$844.59) than those living off-campus with other students/young people.

TABLE 5
Housing Expenses per Month

	RENT	UTILITIES
Living at Home With Parents, Relatives	\$141.74	\$38.13
Living On-Campus	\$844.59	\$26.40
Living Off-Campus With Other Young People	\$685.51	\$184.50
Living Off-Campus With Spouse, Children	\$1,287.46	\$291.95

TRANSPORTATION AND TRAVEL EXPENSES

Students were asked about their commute to campus (see Table 6 below).

Students living with their parents had the highest number of commuting miles per week (163.3 miles) as a result of taking an average of 3.9 trips to campus with an average of

42.2 round-trip miles. Students living on-campus had no commuting miles, and students living off-campus with other students/young people had fewer weekly commuting miles (133.2) compared to those living off-campus with their spouses and children. Weekly miles for commuting were converted to dollar expenses using the 55.5 cents per mile allowed by the U.S. Internal Revenue Service for business travel.

TABLE 6
Number of Commuting Miles per Week per Student

	ON-CAMPUS	OFF-CAMPUS WITH OTHER STUDENTS/ YOUNG PEOPLE	OFF-CAMPUS WITH SPOUSE, CHILDREN	OFF-CAMPUS WITH PARENTS	ALL STUDENTS
One Way Miles Per Commuting Trip Per Commuter	0.0	10.4	19.8	21.2	17.9
One Way Miles Per Commuting Trip Per Student	0.0	10.2	19.7	21.1	13.2
Round Trip Miles Per Commuting Trip Per Student	0.0	20.4	39.4	42.2	26.3
Number of Commuting Trips Per Week Per Student	0.0	4.4	3.4	3.9	3.0
Number of Commuting Miles Per Week Per Student	0.0	90.6	133.2	163.3	77.6

TABLE 7
Average Monthly Expenditures for Non-Local Travel

	PER MONTH
Average In-State Travel Expense Per Traveler	\$313.29
Average In-State Travel Expense Per Student	\$68.34
Average Out-Of-State Travel Expense Per Traveler	\$1,118.67
Average Out-of-State Travel Expense Per Student	\$130.52

Students were also asked about their in-state and out-of-state travel. Estimates of average monthly expenditures for in-state and out-of-state travel are reported in Table 7. In terms of economic impact, out-of-state travel represents a loss to the local and Florida economies.

Monthly travel expenses were converted to semester travel expenses by multiplying by 4.5 months per semester; weekly travel expenses were converted to semester expenses

by multiplying by 19.4 weeks. The results are given in Table 8 (below). Other local travel accounted for the largest share of transportation expenses (\$1,850.18), followed by commuting (\$775.07). In-state travel generated the lowest transportation expense (\$307.53). It is notable that if in-state and out-of-state travel are excluded, average semester cost per student (\$2,625.26) is similar to the transportation cost estimated by the FAU Office of Financial Aid's Cost of Education 2011-12 figure for two semesters.

TABLE 8
Average Semester Costs for Transportation Per Student

Commuting	\$775.07
Other Local Travel	\$1,850.18
In-State travel	\$307.53
Out-of-State Travel	\$587.34
Total	\$3,520.13

WEEKLY LIVING EXPENSES

Students were asked about their expenditures for food and dining, recreation and entertainment, medical expenses and a residual “other” category. They were also asked about their local travel for the purpose of dining, entertainment, shopping

and, in some cases, commuting to and from off- campus work. The average student spent \$95.23 on local travel, excluding commuting (see Table 9 below).

TABLE 9
Selected Weekly Expenses

TYPE OF EXPENDITURE	AMOUNT PER WEEK
Food & Dining	\$116.86
Recreation & Entertainment	\$101.30
Medical Expenses	\$32.91
Local Travel exc. School Commuting	\$95.23
Other expenditures	\$59.51

Table 10 presents the weekly food and dining expenditures by housing type.

TABLE 10
Average Expenditures for Food and Dining

BY HOUSING TYPE	PER WEEK	PER SEMESTER
On-Campus	\$105.52	\$2,050.10
Off-Campus with Other Students/Young People	\$117.98	\$2,292.18
Off-Campus with Spouse, Children	\$176.59	\$3,430.89
Live with Parents	\$104.32	\$2,026.79
All Students	\$116.96	\$2,272.37

Notably, the average weekly expenditures on food and dining are similar for students living on campus and students living with their parents. Table 6 above shows that students living with their parents have a relatively long commute to campus (more than 20 miles each way). This may cause them to eat more meals in commercial establishments than students in

on-campus housing. The average student pays \$116.96 per week (about \$17 per day) for food and dining.

The average student also reported spending \$32.91 per week for medical care (see Table 9 above) which amounts to an expenditure of \$639.39 over the course of the semester.

Expenditures for health insurance must be added to medical care expenses in order calculate total health expense. A relatively small proportion (18.2 percent) of FAU students purchased health insurance (see Table 11 below), perhaps because many students are covered on their parents' insurance policies. The average student who purchased a

policy expended \$475.99 during the semester. Averaging the expenditure across all students (including those who did not purchase a policy) resulted in a semester average of \$86.77. When added to the average medical expenditure, it is estimated that students had an average health expense per semester of \$726.16.

TABLE 11
Students Purchasing Health Insurance

RESPONSES	LIVING ON-CAMPUS	LIVING OFF-CAMPUS WITH OTHER YOUNG PEOPLE	LIVING OFF-CAMPUS WITH SPOUSE, CHILDREN	LIVING OFF-CAMPUS WITH PARENTS	ALL STUDENTS
	Percent	Percent	Percent	Percent	Percent
Yes	11.7	24.4	36.7	13.5	18.2
No	88.3	75.6	63.3	86.5	81.8
Total	100.0	100.0	100.0	100.0	100.0

TEXTBOOKS AND SUPPLIES

Students were asked about their spending for textbooks, and they reported spending \$430 per regular semester. They were also asked about their purchases of laptop or desktop computers. Expenditures on a laptop or desktop were made by 22.9 percent of the students. The average expenditure reported by those who purchased a computer was \$897.94. The average expenditure on laptops or desktops for all students (including those who did not make a purchase) was \$190.17.

ROOM AND BOARD EXPENDITURES

The housing expenses per month in Table 5 above can be multiplied by 4.5 months to obtain average housing costs per semester. These can be combined with the food and dining expenditures (see Table 10) to estimate average room and board per semester (see Table 12). Average semester expenditures on room and board are estimated at \$6,000 for students living on-campus and for students living off-campus with other students or young people. This rate of expenditure over two semesters would amount to about \$12,000 – a little more than the \$11,000 figure given for students on-campus by the Office of Financial Aid Cost of Education 2011-12 and the \$10,000 estimated for students living off-campus. The room and board figure for students living with their parents over two semesters (\$5,600) is more than four times the figure given in the Cost of Education Study. It was previously noted that such students commute a relatively long distance to campus and spend more at restaurants than on-campus students.

TABLE 12
Average Semester Expenditures on Room and Board by Housing Type

	ON-CAMPUS	OFF-CAMPUS WITH OTHER YOUNG PEOPLE	OFF-CAMPUS WITH SPOUSE, CHILDREN	OFF- CAMPUS WITH PARENTS	ALL STUDENTS
Housing	\$3,800.66	\$3,084.80	\$5,793.57	\$637.83	\$2,506.50
Utilities	\$118.80	\$830.25	\$1,313.78	\$171.59	\$436.64
Food & Dining	\$2,050.10	\$2,292.18	\$3,430.89	\$2,026.79	\$2,272.37
Total Room & Board	\$5,969.56	\$6,207.23	\$10,538.24	\$2,836.20	\$5,215.50

TABLE 13
**Average Non-Tuition Spending Per Semester
 by FAU Students**

SEMESTER NON-TUITION SPENDING SUMMARY

Table 13 summarizes average spending per student per semester by category of expenditure. Florida Atlantic University students reported an average total semester expenditure of \$13,206.23. This compares to the minimum educational expenses of \$7,775 for students not living with their parents in the Financial Aid 2011-2012 Cost of Education. Student spending for room rent, utilities and food and dining accounts for about 40 percent of the expenditure.

Transportation accounts for more than a quarter of the expenditure (26.6 percent). Another 15 percent is expended for recreation and entertainment.

EXPENDITURE CATEGORY	AMOUNT	PERCENT
Textbooks	\$430.01	3.3
Laptop/Desktop Computer	\$190.17	1.4
Housing Rent	\$2,506.50	19.0
Utilities	\$436.64	3.3
Food and Dining	\$2,272.37	17.2
Commuting	\$775.07	5.9
Other Local Travel	\$1,850.18	14.0
In-State Travel	307.53	2.3
Out-of-State-Travel	587.34	4.4
Medical Expenses	\$639.39	4.8
Health Insurance	\$86.72	0.7
Recreation and Entertainment	\$1,968.11	14.9
All Other Expenditures	\$1,156.19	8.8
Total	\$13,206.23	100.0

SOURCES OF INCOME

Students were asked to provide information on the percentage breakdown of their sources of income (see Table 14). Parents, spouses and other relatives are the largest source of income for FAU students (36.1 percent). FAU financial aid accounts for 22.3 percent of the average student’s budget, with a further 11.3 percent accounted for by non-FAU financial aid sources. Off-campus employment accounted for about one in five dollars expended.

AVERAGE EXPENDITURES BY VISITING FRIENDS AND RELATIVES

Students generate an impact on the economy not only through their own expenditures on local goods and services, but also because they draw friends and relatives to visit them. The spending of these visiting friends and relatives has a positive effect on the local economy. More than half of students responding to the survey reported receiving visitors (55.9 percent). (See Table 15 below.)

TABLE 14
Sources of Student Income

SOURCES OF INCOME	PERCENT
Parents	36.1
FAU Financial Aid	22.2
Other Financial Aid	11.2
Campus Employment	3.2
Off-Campus Employment	20.7
Other Funds	6.6
Total	100.0

TABLE 15
Visiting Friends and Relatives

	IN-STATE BUT NOT LOCAL	ELSEWHERE IN THE U.S.	INT’L
Number of Times Visitors Received Per Semester	1.60	0.60	0.23
Number of Persons Per Visit	0.89	0.58	0.25
Number of Nights Per Visit	0.99	1.03	0.81
Total Number of Person Nights Per Student	1.41	0.36	0.05

Averaging responses across all students in the survey (including those who received no visitors), the average student received in-state (but not local) visitors on 1.60 occasions, received visitors from elsewhere in the U.S. on 0.60 occasions and received international visitors on 0.23 occasions. Visiting party sizes were larger for in-state visitors than for those coming from elsewhere in the U.S., and they were smallest for international visitors. The average length of stay was about one night for in-state visitors and visitors from other states. It was a little less (0.81 for international visitors).

The average student generated 1.82 visitor nights during the course of the semester (the sum of 1.41 in-state visitor nights, 0.36 visitor nights by visitors from elsewhere in the U.S and 0.05 visitor nights by international visitors). An important factor in calculating visitors’ expenditures is their lodging costs. The results of the survey on this point are presented in Table 16 (see below).

TABLE 16
Lodging of Visitors

TYPE OF LODGING	PERCENT
Stay with the Student	72.0
Stay with Other Family or Friends	14.0
Stay in Hotels	13.0
Stay in Other Lodging	2.0
Total	100.0
Other Funds	6.6
Total	100.0

More than 70 percent of visitors stayed with the student and an additional 14 percent stayed with other family and friends. These visitors presumably had no lodging expenses. The remaining 15 percent of visitors paid for commercial lodging, primarily in hotels.

Daily visitor expenditures on non-lodging items (Table 17 below) were obtained from the 2010 Florida Visitor Study published by Visit Florida. To this must be added expenditures for lodging for the 15 percent of visitors who stayed in commercial establishments. According to Palm Beach County Tourist Development Council figures, the average daily room rate was \$128.60 in 2011. Adding this to the figure for non-lodging items shows that visitors to students who stayed in commercial lodging spent \$250.10 during their stay.

TABLE 17
Spending on Non-Lodging Items Per Person Day:
Domestic Visitors to Florida

Transportation	\$50.20
Food	\$29.70
Entertainment	\$19.30
Shopping	\$15.00
Miscellaneous	\$7.30
Total – Non-Lodging	\$121.50

Average per person per day spending is a weighted average of the spending of visitors who did not pay for lodging and those who did. This is calculated to be \$142.01. This is multiplied by the average persons per visit to obtain the average spending per visiting party of \$442.26⁵. Since the average student receives visitors on 2.43 occasions during the semester, the average spending of visitors per student is \$1,077.11.

⁵ Recall that average length of stay was about one night.

SURVEY METHODOLOGY

Students were surveyed in their classes during January 2012. Using the Florida Atlantic University Class Schedule on the internet, 58 classes were selected for inclusion in the study. It was anticipated that, for a variety of reasons, it would not be possible to survey all the targeted classes. Classes were grouped by campus, within each campus by college, and within each college by level (lower division, upper division and graduate) and by time of day (day and evening). Evening classes started at 4 p.m. or later. One class was selected from each of the “cells” of this sampling frame, provided the cell was not empty. It was believed that the spending patterns of students might differ by campus, by college, by level and between day and evening students.

Some large classes were selected in the sample, but no more than 30 questionnaires were used from any class. Questionnaires were collected from all students in classes with enrollments of less than 30. Lower-division classes needed to satisfy general education requirements were chosen when available in order to get a broad sample of students. At the upper-division level, junior-level courses were selected when available in order to get variety across disciplines. In some cases faculty administered the questionnaires, but in most cases a Ph.D. student in public administration collected the

data. Surveys were received from 38 classes. On a campus basis, the largest number of surveyed classes was on the Boca Raton campus (73.7 percent); there were three classes surveyed on the Davie, Fort Lauderdale and Jupiter campuses, and there was one class surveyed on the Dania Beach campus (Table 18).

The largest number of classes surveyed was in the Dorothy F. Schmidt College of Arts and Letters and the College of Design and Social Inquiry, with eight classes surveyed in each college (see Table 19 below). Six classes were surveyed in the Charles E. Schmidt College of Science, five in the College of Business and four in the College of Education. There were three classes surveyed in the College of Computer Science and Engineering, two in the Christine E. Lynn College of Nursing and one each in the Charles E. Schmidt College of Medicine and the Harriet L. Wilkes Honors College. Most of the surveyed classes were at the upper-division level (68.4 percent) as shown in Table 20. Seven graduate classes were surveyed, and five classes were surveyed at the lower-division level. About two-thirds of the surveyed classes were day classes (65.8 percent) and one third were evening classes (34.2 percent), as shown in Table 20.

TABLE 19
Surveyed Classes By College

Arts & Letters	8	21.1
Business	5	13.2
Computer Science & Engineering	3	7.9
Design & Social Inquiry	8	21.1
Education	4	10.5
Honors	1	2.6
Medicine	1	2.6
Nursing	2	5.3
Science	6	15.8
Total	38	100.0

TABLE 18
Surveyed Classes By Campus Visitors to Florida

	NUMBER	PERCENT
Boca Raton	28	73.7
Dania Beach	1	2.6
Davie	3	7.9
Ft. Lauderdale	3	7.9
Jupiter	3	7.9
Total	38	100.0

TABLE 20
Surveyed Classes by Level and Time of Day

LEVEL	NUMBER	%	TIME OF DAY	NUMBER	%
Lower Division	5	13.2	Day	25	65.8
Upper Division	26	68.4	Evening	13	34.2
Graduate	7	18.4			
Total	38	100.0	Total	38	100.0

The surveys were weighted, using the spring 2012 Course Enrollment Headcount in order to adjust for over- and under-sampling of subpopulations of FAU students. For “cells” where there was a student population but no surveys, that cell population was added to the population of a cell that could be expected to contain a similar group of students.

PROFILE OF RESPONDENTS

This section contains a description of the 805 respondents to the January 2012 student survey. The profile presented here is strongly influenced by the selection of classes to be surveyed. For example, junior classes were favored in the class selection because it was expected that more majors might be included than would be found in classes at the senior level. Core curriculum classes were favored at the lower-division level for similar reasons and also because students in these classes might be more likely to be full-time than part-time.

More than 90 percent of respondents identified the Boca Raton campus as their primary campus (93.5 percent). More than three percent identified Davie as their primary campus, and three percent identified one of the other three campuses surveyed as their primary campus. It was also possible to estimate the number of students attending a course away from their primary campus. More than 95 percent of the students surveyed were attending a course on their primary campus (98.2 percent). This reflected a very high percentage on the Boca Raton campus (98.2 percent). The percentages were lower at the other campuses, especially the Davie campus (68.5 percent), and there were no students in the class at Dania Beach who identified that location as their primary campus.

The majority of survey respondents were pursuing business majors (23.8 percent) followed by majors in arts and letters (17.2 percent), science (16.4 percent) and computer science and engineering (16.3 percent). (See Table 21 below.) The majors identified in the survey were influenced by the relatively small sizes of some the classes surveyed in certain colleges. More than 50 percent of the students surveyed were juniors or seniors. There were more juniors than seniors because of the decision to favor junior-level courses in drawing the samples. Graduate students accounted for 6.4 percent of the students surveyed (Table 21).

Almost half the students surveyed were enrolled in four classes. The number of classes was derived from the number of credits enrolled, as reported by the students. Five credits or fewer were assigned a value of one class, 6-8 credits were assigned two classes, 9-11 were assigned three classes, 12-14 credits were assigned four classes, 15-17 were assigned five classes, 18-20 were assigned six classes, and one student reported more than 20 credits, which may have been in error. The average student was enrolled in 3.8 classes. The median student was enrolled in four classes and the modal number of classes was also four.

TABLE 21
Student Majors By College

COLLEGE	PERCENT
Arts & Letters	17.2
Business	23.8
Computer Science & Engineering	16.3
Design & Social Inquiry	9.5
Education	6.0
Honors	1.7
Nursing	3.9
Science	16.4
Other (incl. Pre-Med, Pre-Bus & Undeclared)	5.2
Total	100.0

THE DERIVATION OF STUDENT AND VISITOR DIRECT SPENDING FROM THE STUDENT SURVEY

Estimates of student and visitor direct spending were derived from the survey of students described above. The average semester spending per student was estimated at \$13,206.23 (see Table 13 above). This figure was reduced by the spending on on-campus housing and dining, which is already included in the University Operations Budget. Student spending on out-of-state travel is also subtracted because it results in no impact on the state or local economies.

The resulting adjusted average spending per student per semester was multiplied by the unduplicated spring semester course enrollment⁶. Fall spending was assumed to be the same as the spring spending obtained from the survey. Spending in the summer term was assumed to take place at the same monthly rate as was estimated in the survey. Total summer spending was estimated over a three-month period. One final adjustment was to allow for spending from FAU Financial Aid and on-campus employment. Spending was reduced by 25.5 percent of income reported by students as financed from FAU Financial Aid and from on-campus employment.

An analysis of average spending by friends and relatives who visit FAU students based on the survey of students is also presented above. Average spending per student was multiplied by the unduplicated spring semester course enrollment to obtain total visitor spending for spring 2012. Fall spending was assumed to be the same as the spring spending obtained from the survey and added to the spring total. Spending in the summer term was assumed to take place at the same monthly rate as was estimated in the survey. Total summer spending was estimated over a three-month period.

Spending by visitors was not estimated in the Florida SUS Study. As a result, indirect and induced impacts could not be obtained using the SUS Study procedures. These impacts were derived using an alternative regional input-output model (RIMS II) that was obtained from the Bureau of Economic Analysis of the U.S. Department of Commerce. The categories of visitor spending were allocated to industries in the RIMS II Model. The largest categories were transportation, food and dining, entertainment and lodging. Transportation was assigned to Other Transportation and Support Activities; food and dining to Food Services and Drinking Places; entertainment to Amusements, Gambling and Recreation; and lodging housing/rent to Other Accommodations. These generated multipliers for gross output, value added, earnings and employment.

⁶ The unduplicated enrollment was obtained by dividing the duplicated course enrollment by the course load reported in the survey (3.8 courses). Courses that did not meet in classrooms, such as dissertation and thesis credits and internet courses, were excluded.

APPENDIX A SURVEY QUESTIONNAIRE

1. YOUR CLASS standing:

- ☐ Freshman ☐ Sophomore ☐ Junior
☐ Senior ☐ Graduate student ☐ Other

2. PRIMARY CAMPUS attended:

- ☐ Boca Raton ☐ Dania Beach ☐ Davie
☐ Fort Lauderdale ☐ Harbor Branch ☐ Jupiter
☐ Pine Jog ☐ Port St. Lucie ☐ Other

3. YOUR MAJOR _____

4. NUMBER OF HOURS ENROLLED _____

5. ☐ U.S. STUDENT ☐ INTERNATIONAL STUDENT

6. ZIP CODE WHERE YOU RESIDE _____

PREVIOUS ZIP CODE _____

7. COMMUTE TO CAMPUS? ☐ Yes ☐ No

If Yes, MILES EACH WAY _____

TRIPS PER WEEK _____

8. Please tell us about your HOUSING THIS SEMESTER:

- ☐ LIVING AT HOME with parents or relatives
☐ Living in ON-CAMPUS HOUSING
☐ OFF-CAMPUS WITH OTHER students/young people
☐ OFF-CAMPUS WITH SPOUSE, children

If living on-campus: Name of student housing _____

9. Your EDUCATIONAL EXPENSES THIS SEMESTER

(prorate if necessary):

a. Text books and school supplies \$ _____

b. Health insurance \$ _____

c. Will you buy a laptop or personal computer this semester?

- ☐ Yes ☐ No

If yes, spending \$ _____

10. Your MONTHLY HOUSING EXPENSES and TRAVEL THIS SEMESTER:

a. Housing: \$ _____

b. Utilities \$ _____

Travel outside of South Florida:

a. In-state \$ _____

b. Out-of-state \$ _____

11. Your WEEKLY LIVING EXPENSES THIS SEMESTER:

- a. Food and Dining \$ _____
b. Recreation and Entertainment \$ _____
c. Medical expenses \$ _____
d. Local travel exc. school commuting \$ _____
e. Other expenditures \$ _____

12. What are the percentage SOURCES OF YOUR FUNDING THIS SEMESTER?

PARENTS, spouse or other relatives	%	EMPLOYMENT on campus	%
Student FINANCIAL AID through FAU	%	EMPLOYMENT off campus	%
OTHER student financial aid	%	Other (Savings or Business Income)	%

13. Approximately how often will you have VISITORS DURING THIS SEMESTER that are:

	IN-STATE BUT NOT LOCAL	OUT OF STATE	INT'L
Number of times			
Number of people per visit			
Number of nights per visit			

14. When your VISITORS visit you, what percent of the time do they STAY:

With You	%	In Hotels	%
Locally with Family/Friends	%	Other	%

EXPENDITURES AND THE EXPENDITURE BUDGET

It has been noted that the FAU direct expenditure numbers given in Table 1 come from the FAU Financial Statements. Table C (on the next page) shows the relationship between the direct spending numbers and the expenditure budget. The columns labeled Direct Spending and Salaries and Benefits contain details on the numbers used in the Economic Impact Study.

The total spending numbers from the financial statements (\$620.4 million) exceeded the expenditure budget (\$599.9 million) by more than \$20 million, as can be seen in row F at the bottom of Table C. The overage was accounted for by higher enrollment figures than projected at the time the budget was adopted. As a result, expenditures from the Student Trust Fund (which is funded by tuition) exceeded the budget by about \$8 million (the second row in Table C). The extra enrollment also caused total spending on Financial Aid to exceed the budget by \$12 million (see the row below the row labeled C). Although spending on Stafford Loans also exceeded budget by another \$12 million, these expenditures are not included in the economic impact study because they represent a pass-through. The revenues received are transferred to the students, who make the resulting expenditures.

A number of funds, notably Research (row B) and Auxiliaries (the row above row C) had total spending substantially below their Adjusted Budgets. This occurred because authorized expenditures had not cleared the accounts by June 30, 2011, the date of the Financial Statements report.

TABLE C

Reconciliation of FAU Budget and Spending FY 2011 (In Millions of Current Dollars)

Adjusted Budget	Direct Spending (Expense) (1)	Salaries & Benefits (2)	Transfers Out (3)	Total Spending = (1)+(2)+(3)	\$2,506.50
General Revenue	142,264,787	78,343,860	65,178,027	-	143,521,887
Student Trust Fund	89,211,858	10,991,734	86,157,575	445	97,149,754
Enhancement Fund	16,411,301	-	16,411,301	228,674	16,639,975
Federal Stabilization Fund	11,630,612	-	11,630,612	-	11,630,612
Total E&G Budget	259,518,558	89,335,594	179,377,516	229,119	268,942,229

Technology Fee	3,628,712	1,845,846	300,609	-	2,146,455
Student Government	9,935,432	3,200,393	2,011,048	4,669,296	9,880,736
Concession Fund	500,250	253,997	-	195,000	448,997
A. Total E & G Economic Impact Study	273,582,952	94,635,830	181,689,172	5,093,415	281,418,417

Contact and Grants	52,274,475	17,566,376	20,422,075	7,966,733	45,955,184
Foundation	6,096,585	501,019	3,317,625	12,415	3,831,060
Henderson School	5,731,684	1,821,645	3,684,275	2,391	5,508,310
B. Research Economic Impact Study	64,102,744	19,889,040	27,423,975	7,981,539	55,294,554

Athletics	14,011,516	8,783,937	5,114,154	1,765,874	15,663,965
Auxiliaries	102,527,138	42,066,716	26,089,939	29,121,036	97,277,692
C. Total Economic Impact Study	116,538,654	50,850,654	31,204,094	30,886,910	112,941,657

Financial Aid	61,590,276	68,245,686	-	5,141,418	73,387,104
Financial Aid Administrative	877,542	51,708	1,340,730	-	1,392,438
Stafford Loans	83,176,362			95,922,572	95,922,572
D. Financial Aid	145,644,180	68,297,394	1,340,730	101,063,990	170,702,114

E. Financial Aid Economic Study (No Stafford --a Pass-Through)	62,467,818	68,297,394	1,340,730	5,141,418	74,779,542
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F. Grand Total A + B + C + D	599,868,530	233,672,918	241,657,971	145,025,853	620,356,742
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Grand Total Economic Impact Study: A + B + C + E	233,672,918	241,657,971			
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APPENDIX C ABOUT THE RESEARCH TEAM

This report summarizes a study of Florida Atlantic University's economic impact on the state of Florida. The study was conducted under the general direction of Dr. Khi Thai, FAU Professor of Public Administration. It was designed by Dr. William B. Stronge, FAU Professor Emeritus of Economics, with assistance from Dr. Thai and Dr. Jack Pinkowski of Nova Southeastern University. Dr. Susan E. Day of FAU's Division of Research edited the report, and Mr. Alexandru Roman, a Ph.D. student in FAU's School of Public Administration, administered the student survey that was undertaken as part of this study and he supervised the data entry. The analysis was carried out by Dr. Stronge, who is the principal author of this report.



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