2019-2020 Faculty Salary Study: Fixed-term Faculty in Division of Academic Affairs

Executive Summary

Between Fall 2018 and Fall 2019, a faculty salary compression study was conducted at East Carolina University, which included 1,399 permanent full-time faculty as of Oct. 31, 2018. The Executive Summary and Full Report of the study are available on the Faculty Welfare Committee website. Because the 2018-19 salary analyses did not include fixed-term faculty in the Division of Academic Affairs (AA), a follow-up study was conducted in Spring 2020 on this population. A new advisory group with fixed-term faculty representation (hereafter the Advisory Group) provided input throughout the study and approved the final report. The analyses, conducted by the Office of Institutional Planning, Assessment and Research (IPAR), included 257 full-time fixed-term faculty in permanent positions in AA as of March 4, 2020. Any changes to faculty salary or employment status after that date are not reflected in the study.

Similar to the 2018-19 Faculty Salary Compression Study, the AA fixed-term faculty salary study was intentionally designed to be an internal analysis with the goal of identifying individuals whose salaries were lower than similarly situated colleagues within AA after taking into account appropriate predictors of salaries. After a review of relevant literature and the methodologies utilized in the 2018-19 Salary Compression Study, the Advisory Group decided to adopt the same statistical method used in the previous study (multiple regression analyses) but with a different set of salary predictors due to two considerations:

1. AA fixed-term faculty are not subject to the same promotional timeline or the same amount of promotional raise as their tenured/tenure-track colleagues. Therefore, although academic rank and time in rank were significant salary predictors in the AA tenured/tenure-track regression model, years of service as full-time fixed-term faculty in a permanent position at ECU was more appropriate for the fixed-term faculty salary model.
2. It was not appropriate to use "department" as a predictor in the fixed-term faculty salary model because of low numbers of fixed-term faculty across academic titles in many AA departments. Therefore, the study grouped fixed-term faculty into eight major disciplinary clusters: Business and Economics, Education, Engineering and Technology, Fine Arts and Communication, Health and Human Performance, Humanities, Natural Sciences and Social Sciences.

Two regression models are presented in this report: Model One included unit/disciplinary cluster, terminal degree indicator, and years of service as full-time fixed-term faculty in a permanent position; Model Two included Model One variables and an additional variable, academic title. Model One was able to explain 79% of the variance in fixed-term faculty salaries and Model Two was able to explain 80% of the variance. These models were used to calculate

predicted salaries, residuals (i.e., difference between actual and predicted salaries), and standardized residuals.

The study adopted the same definition for "low-end outliers" as in the 2018-19 Faculty Salary Compression Study, i.e., individuals whose actual salaries were at least 0.75 standard deviation below their predicted salaries. A total of 71 individuals were identified by Model One and 67 by Model Two. The Advisory Group **recommended the use of Model One as the basis for salary review because promotional processes and raises were not consistent across Academic Affairs units**. To be consistent with the AA tenured/tenure-track faculty salary analyses, salary benchmarks for AA fixed-term faculty were retrieved from the same source – the College and University Professional Association for Human Resources (CUPA-HR). Predicted salaries, residuals, and standardized residuals from both models, as well as a salary benchmark (when available in CUPA-HR), for each faculty member were included in Unit Faculty Salary Reports prepared for the Provost and AA Deans.

The regression analyses provided a unified approach to examining variance in AA fixed-term faculty salaries. However, regression analysis is subject to several limitations and should not be the only tool used by unit administrators to identify and address salary compression, inversion, and other equity issues. Unit administrators should consider faculty productivity, performance reviews, and other local context pertaining to faculty salaries when interpreting the results from the study and taking actions to address salary issues.

Individuals can provide comments or ask questions about the study by completing an online feedback form by October 15, 2020 at https://ecu.az1.qualtrics.com/jfe/form/SV_0ChxOLkWpJIKnLT. The Faculty Welfare Committee will review all feedback, taking appropriate action when possible and forwarding questions and issues more appropriately addressed by others. The responses are confidential unless a respondent chooses to leave contact information at the end of the feedback form. The Advisory Group highly encourages open communication about the study in each AA college. Additionally, in alignment with the original Faculty Senate resolution #18-26 (approved on March 27, 2018), the Advisory Group encourages public presentation of study results, a review of fixed-term faculty salary data by academic unit heads with recommendations for salary adjustment where appropriate, and making salary compensation a financial priority in future ECU budgets for those faculty whose salaries fall below predicted values.

2019-2020 Faculty Salary Study: Fixed-term Faculty in Division of Academic Affairs

Full Report

In response to Faculty Senate Resolution #18-26 (approved on March 27, 2018), a faculty salary compression study was conducted between Fall 2018 and Fall 2019 at East Carolina University (ECU). The Executive Summary and the Full Report of the study are available on the website of the Faculty Welfare Committee. Because the study did not include fixed-term faculty members in the Division of Academic Affairs (AA), a follow-up study on this population was conducted in Spring 2020 by the Office of Institutional Planning, Assessment and Research (IPAR).

An AA fixed-term faculty salary study advisory group (hereafter the Advisory Group) was established in January 2020 with faculty and staff members representing AA fixed-term faculty, the Faculty Senate, and AA Personnel Administration. The Advisory Group and IPAR met regularly to discuss fixed-term faculty salary concerns, review salary compression study methodologies, determine the fixed-term faculty population for analyses, identify factors impacting fixed-term faculty salaries, and provide input to IPAR staff during the development of statistical models. In May 2020, the Advisory Group approved the final regression models, provided feedback to the final report, and unanimously approved the final report for public distribution.

Individuals can provide comments or ask questions about the study by completing an online feedback form by October 15, 2020 at https://ecu.az1.qualtrics.com/jfe/form/SV_0ChxOLkWpJIKnLT. The Faculty Welfare Committee will review all feedback, taking appropriate action when possible and forwarding questions and issues more appropriately addressed by others. The responses are confidential unless a respondent chooses to leave contact information at the end of the feedback form. The Advisory Group highly encourages open communication about the study in each AA college. Additionally, in alignment with the original Faculty Senate resolution #18-26 (approved on March 27, 2018), the Advisory Group encourages public presentation of study results, a review of fixed-term faculty salary data by academic unit heads with recommendations for salary adjustment where appropriate, and making salary compensation a financial priority in future ECU budgets for those faculty whose salaries fall below predicted values.

I.   Advisory Group and IPAR Staff Roster

Advisory Group
- Lisa Ellison: Teaching Instructor, Foreign Languages and Literatures, Harriot College of Arts and Sciences; Chair, Writing Across the Curriculum Committee

- Amanda Klein: Associate Professor, English, Harriot College of Arts and Sciences; Secretary of the Faculty
- Jocelyn Nelson: Teaching Professor, School of Music, College of Fine Arts and Communication
- Jeff Popke: Professor, Geography, Harriot College of Arts and Sciences; Chair of the Faculty
- Marlena Rose: Library Associate Professor, Laupus Library; Chair of Faculty Welfare Committee
- Wendy Sergeant: Assistant Vice Chancellor, Academic Affairs Personnel and Resources; Faculty Welfare Committee
- Craig Williams: Teaching Professor, Management, College of Business
- Karen Vail-Smith: Teaching Professor, Health Education and Promotion, College of Health and Human Performance; Member, the University Undergraduate Curriculum Committee

IPAR Staff
- Danny Barreiro-Talbert: Research Associate for External Reporting
- Nicole Cox: Business Intelligence Analyst
- Beverly King: Director of Institutional Research
- Hanyan Wang: Research Associate/Statistician
- Ying Zhou: Associate Provost for Institutional Planning, Assessment and Research

II.   Definition of Faculty and Salary

The study included full-time fixed-term faculty in permanent positions from six colleges in the Division of Academic Affairs. A faculty roster was pulled from the Fall 2019 Personnel Data File (PDF) and validated by AA Personnel Administration in late February. Seven faculty with a contract termination date were excluded as were five special hires identified by the AA Personnel Administration. The final dataset included 257 individuals in 42 departments as of March 4, 2020. Any changes to faculty salary or employment status after that date are not reflected in the study. Appendix One presents faculty headcount by academic title and department. Sixty-three percent of the faculty were instructors, 27% assistant professors, 8% associate professor, and 2% professors. The study focused on **9-month base salary,** which represents the "permanent, recurring salary" of an individual. Stipends for administrative or other additional duties were not included. In the analyses, 11-month or 12-month salaries were converted to 9-month.

The Advisory Group recognizes that the study has excluded part-time fixed-term faculty in temporary positions who are paid by course. Due to large variances among part-time fixed-term faculty in terms of course load, employment terms, market rates, and course rates, the Advisory Group has concluded that the statistical method used in this study to analyze full-time fixed-term faculty in permanent positions cannot be applied to the part-time fixed-term faculty.

It is recommended that, as the Faculty Senate and university administration continue to review, revise and implement policies regarding fixed-term faculty, a study of the composition and compensation of part-time fixed-term faculty be conducted in the future.

III.   Methodologies, Findings and Limitations of the Study

Identification of Salary Predictors

Similar to the 2018-19 Faculty Salary Compression Study, the AA fixed-term faculty salary study was intentionally designed to be an internal analysis with the goal of identifying individuals whose salaries were lower than similarly situated colleagues within AA after taking into account appropriate predictors of salaries. After a review of relevant literature and the methodologies utilized in the 2018-19 Salary Compression Study, the Advisory Group decided to adopt the same statistical method used in the previous study – multiple regression analyses. In order to identify factors that impacted fixed-term faculty salaries, the Advisory Group first sought input from unit administrators. AA deans were asked to respond to the following questions:

- What factors are considered when determining salary for a fixed-term faculty member?
- Is there a relationship between academic title at hire and initial salary level?
- Is advancement in title associated with a salary increase? If yes, does the college/department have a standard raise?
- Are there any salary compression/inversion concerns in your college/department?

Deans cited multiple factors impacting fixed-term faculty salaries, some of which were college specific. Common to all colleges were market rate of the discipline, years of service at ECU, highest degree earned, years with the highest degree, specialty/expertise (e.g., licensure, specialty credentials), and prior work experience or work title. Their responses further revealed that timeline, processes and raises associated with fixed-term faculty advancement in title were not consistent across AA departments. Deans also expressed varying levels of concern over fixed-term faculty salary compression in their colleges. These responses informed the selection of variables during regression modeling.

Another challenge of the study was the low number of faculty across academic title in many departments as shown in Appendix One. Because over one third of AA departments had three or fewer fixed-term faculty, there were not sufficient cases to build a regression model using department as a salary predictor. College seemed to be the natural alternative to department as a predictor except for the Harriot College of Arts and Sciences (HCAS). Approximately 40% of the fixed-term faculty included in the study were in HCAS. They were from a broad range of disciplines and paid at different levels due, in part, to differences in disciplinary market rates. In order to classify HCAS departments into meaningful clusters of disciplines, IPAR examined the following resources:

- Two-digit and four-digit Classification of Instructional Programs (CIP) codes of HCAS departments
- Organizational structures of other universities: for example, at universities with a College of Social Sciences, what disciplines are included?
- Median salaries by discipline and academic title retrieved from the College and University Professional Association for Human Resources (CUPA-HR)

Based on IPAR's findings, the Advisory Group approved the following eight clusters of faculty for the purpose of the study:

- **Business and Economics**: 49 individuals, Economics and all departments in the College of Business
- **Education**: 25 individuals, all departments in the College of Education
- **Engineering and Technology**: 27 individuals, all departments in the College of Engineering and Technology
- **Fine Arts and Communication**: 23 individuals, all departments in the College of Fine Arts and Communication
- **Health and Human Performance**: 38 individuals, all departments in the College of Health and Human Performance
- **Humanities**: 36 individuals from English, Foreign Languages and Literatures, Philosophy and Religious Studies, and History
- **Natural Sciences**: 34 individuals from Biology; Geography, Planning and Environment; Geological Sciences; Chemistry; Physics; and Psychology
- **Social Sciences**: 25 individuals from Anthropology, Criminal Justice, Mathematics, Political Science, and Sociology

Regression Modeling

Dependent Variable
A multiple regression analysis examines the extent to which a dependent variable, in this instance 9-month base salary, is related to a series of independent variables (also called parameters or salary predictors in the report). All 11-month and 12-month salaries were converted to 9-month in the regression analyses.

Independent Variables/Salary Predictors
The selection of salary predictors was informed by a literature review, the 2018-19 Faculty Salary Compression Study, and input from the Advisory Group and unit administrators. The following independent variables were included in the final regression models:

- **Terminal Degree**: indicating whether an individual has a terminal degree in the teaching field
- **Years of Service**: years of service at ECU as a full-time fixed-term faculty in a permanent position; prior service in temporary positions, as graduate assistant, or other non-faculty positions was not counted

- **Unit/Disciplinary Cluster**: as defined in the previous section
- **Academic Title**: instructor, assistant professor, and associate or full professor. Due to low numbers of associate and full professors, these two titles were combined.

IPAR also tested other potential predictors such as highest degree, years with highest degree, years with terminal degree, etc. In the modeling process, IPAR used Cook's Distance (Cook's D) to identify and exclude both high-end and low-end outliers that affected the regression models.

Model Evaluation and Selection

IPAR and the Advisory Group evaluated different regression models based on the relevance of salary predictors and the r-squared of each model (i.e., the percent of variance in salaries that can be explained by the model). In the end, two regression models were identified as having the best performance: Model One included Terminal Degree, Years of Service, and Unit/Disciplinary Cluster; Model Two included the variables in Model One plus Academic Title. Table 1 below compares the parameters, estimates, and performance of these models. All variables in the models were statistically significant except for Assistant Professor in Model Two. The original model output is presented in Appendix Two.

The Advisory Group recommends the use of **Model One to identify individuals for salary review** by administrators because promotional processes and promotional raises for fixed-term faculty were not consistent across AA units. From a statistical perspective, the addition of Academic Title in Model Two barely improved its performance over Model One. The estimate for Assistant Professor was not statistically significant, indicating potential salary compression at the assistant professor level.

Table 1: Regression Model Comparison

	Model One	Model Two
Number of Outliers Removed	16 (9 high & 7 low*)	17 (10 high & 7 low*)
Model Estimates		
Intercept	39901	40027
Terminal degree - No	0	0
Terminal degree - Yes	4337	2587
Years of service as fixed-term faculty	209	177
Unit/Disciplinary Cluster:		
Humanities (English, Foreign Languages & Literatures, Philosophy & Religious Studies, History)	0	0
Natural Sciences (Biology; Chemistry; Geological Sciences; Geography, Planning & Environment; Physics; Psychology)	10567	9843
Social Sciences (Anthropology, Criminal Justice, Mathematics, Political Science, Sociology)	2618	2310
Engineering and Technology	27118	26959
Fine Arts and Communication	9574	9440
Business and Economics	13501	13417
Education	14830	14581
Health and Human Performance	8476	8689
Title – Instructor	Excluded	0
Title – Assistant professor	Excluded	1550 (not statistically significant)
Title – Associate or full professor	Excluded	4711
MSE (Standard error)	3855	3790
R squared value	0.797	0.805
Adjusted R squared value	**0.789**	**0.795**
Number of Individuals Identified <-0.75 Standard Deviation (based on actual minus predicted salary)	71 (Predicted salary >$2,891 higher than actual salary)	67 (Predicted salary >$2,842 higher than actual salary)

* Although the modeling process excluded both low-end and high-end outliers, the resulting regression model was used to calculate a predicted salary for every individual included in the dataset.

How to Calculate a Predicted Salary

Example 1: An individual with a master's degree who was newly hired into a permanent full-time fixed-term faculty position with an academic title of instructor in Fall 2019 by the College of Engineering and Technology

Model One:

Base	$39,901
+ Terminal Degree	+$0
+ Years of service ($209 per year * 0 year)	+$0
+ Engineering and Technology	+$27,118
= Total Predicted Salary	**=$67,019**

Model Two:

Base	$40,027
+ Terminal Degree	+$0
+ Years of service ($177 per year * 0 year)	+$0
+ Engineering and Technology	+$26,959
+ Instructor	$0
= Total Predicted Salary	**=$66,986**

Example 2: A faculty member in the Department of Criminal Justice who has a terminal degree in Criminal Justice, has an academic title of associate professor, and has been in a permanent full-time fixed-term faculty position for 10 years

Model One:

Base	$39,901
+ Terminal Degree	+$4,337
+ Years of service ($209 per year * 10 year)	+$2,090
+ Social Sciences Cluster	+$2,618
= Total Predicted Salary	**=$48,946**

Model Two:

Base	$40,027
+ Terminal Degree	+$2,587
+ Years of service ($177 per year * 10 year)	+$1,770
+ Social Sciences Cluster	+$2,310
+ Associate Professor	$4,711
= Total Predicted Salary	**=$51,405**

Outlier Analysis

The difference between a person's actual salary and his or her predicted salary is called the *residual*. Residuals for a group of faculty can be converted to *standardized residuals*. Conventionally, individuals are considered "outliers" when their standardized salary residuals are more than 2.0 or less than -2.0, indicating a salary more than two standard deviations removed from the level that would be predicted based on the factors considered in the model. The Advisory Group adopted the same definition for "low-end outlier" as in the 2018-19 Faculty Salary Compression Study. Low-end outliers are the individuals whose actual salaries were **at least 0.75 standard deviation <u>below</u> predicted salary**. Table 2 summarizes the number of "low-end" salary outliers by college and academic title.

Table 2: Low-end Salary Outliers by College and Academic Title

	Model 1			Model 2	
	Count	% of Total Faculty		Count	% of Total Faculty
College of Arts and Sciences	19	19%		16	16%
College of Business	23	51%		24	53%
College of Education	9	36%		8	32%
College of Engineering and Technology	6	22%		6	22%
College of Fine Arts and Communication	4	17%		3	13%
College of Health and Human Performance	10	26%		10	26%
Grand Total	**71**	**28%**		**67**	**26%**
Instructor	52	32%		46	29%
Assistant Professor	15	21%		16	23%
Associate Professor	3	14%		4	19%
Professor	1	20%		1	20%

It should be noted that a predicted salary, calculated by a statistical model, is not a recommended or target salary for any individual. A threshold of 0.75 standard deviation is one of the methods to identify low-end salary outliers in a unit. Predicted salaries, residuals, and standardized residuals from both models, as well as a salary benchmark (when available in CUPA-HR), for each faculty member were included in Unit Faculty Salary Reports prepared for the Provost and AA Deans.

Limitations of the Study

The study is subject to several limitations. The regression analyses did not account for all factors that may affect salary decisions in individual cases, such as prior work experience, specialty or expertise, productivity and performance evaluation. Due to low headcount in some

departments, faculty were grouped into larger disciplinary clusters; as a result, salary variations associated with disciplinary market rates within the cluster were not accounted for in the study. For example, the College of Health and Human Performance (HHP) has six departments representing a variety of disciplines: Interior Design and Merchandizing, Health Education and Promotion, Human Development and Family Science, Kinesiology, Recreational Sciences, and Social Work. Some HHP disciplines may have higher market rates than the others, but the study did not account for this. Additionally, overall patterns do not always replicate themselves in individual cases. A statistically significant finding for a group of faculty as a whole, either positive or negative, does not necessarily apply to every individual within the group. Furthermore, although academic title would reasonably be a significant predictor of salary, the addition of academic title to a regression model contributed little to the explanation of salary variance in this study. An increased emphasis on encouraging fixed-term faculty to apply for promotion in title and rewarding their efforts for doing so may make academic title a significant predictor of salary in future studies of this population.

The regression analyses included in this report provide a unified approach to examining variance in faculty salaries. However, regression analysis should not be the only tool used by unit administrators to identify and address salary compression, inversion, and other equity issues. Unit administrators should consider faculty productivity, performance ratings, and other local context pertaining to faculty salaries when interpreting the results from the study and taking actions to address salary issues.

Appendix One: AA Full-time Fixed-term Faculty Headcount by Academic Title and Department

College and Department	Instructor	Assistant Professor	Associate Professor	Professor	Total
College of Arts and Sciences	**40**	**41**	**15**	**3**	**99**
Anthropology		1	2		3
Biology	2	6	1	1	10
Chemistry	1	4	3		8
Criminal Justice	4				4
Economics	1	1	1	1	4
English	14	9	1		24
Foreign Languages and Literatures	5	2	2		9
Geography, Planning and Environment	1	1	1		3
Geological Sciences		2			2
History		1			1
Mathematics	11	2	1		14
Philosophy and Religious Studies		1		1	2
Physics		3			3
Political Science		1			1
Psychology		5	3		8
Sociology	1	2			3
College of Business	**43**	**2**			**45**
Accounting	6				6
Finance	4	1			5
Management	18				18
Management Information Systems	7				7
Marketing and Supply Chain Management	5				5
School of Hospitality Leadership	3	1			4
College of Education	**12**	**10**	**3**		**25**
Elementary Education and Middle Grades Education	6				6
Adult Education, Counselor Education and Library Science	2	4			6
Literacy Studies, English Education, and History Education	1	2			3
Special Education, Foundations and Research		1	2		3
Educational Leadership		3			3
Mathematics Education, Science Education and Instructional Technology	3		1		4

College and Department	Instructor	Assistant Professor	Associate Professor	Professor	Total
College of Engineering and Technology	**20**	**5**	**2**		**27**
Computer Science	1				1
Construction Management	4	1			5
Engineering	4	1	2		7
Technology Systems	11	3			14
College of Fine Arts and Communication	**9**	**11**	**1**	**2**	**23**
School of Art and Design		6			6
School of Communication	5		1		6
School of Music	2	2		2	6
School of Theatre and Dance	2	3			5
College of Health and Human Performance	**37**	**1**			**38**
Health Education and Promotion	15				15
Human Development and Family Science	3				3
Interior Design and Merchandising		1			1
Kinesiology	13				13
Recreation Sciences	4				4
School of Social Work	2				2
Grand Total	**161**	**70**	**21**	**5**	**257**

Appendix Two: Regression Model Output

Model 1 Output

```
Call:
lm(formula = `9mo.SALARY` ~ Terminal.Degree + perm_year + Unit.for.Analysis,
    data = ab)

Residuals:
    Min      1Q  Median      3Q     Max
-7010.4 -2963.2  -130.8  2936.8  8735.5

Coefficients:
                           Estimate Std. Error t value Pr(>|t|)
(Intercept)                39900.92     790.10  50.501  < 2e-16 ***
Terminal.DegreeY            4337.22     611.91   7.088 1.64e-11 ***
perm_year                    209.07      37.28   5.608 5.82e-08 ***
Unit.for.AnalysisA&S-NS    10566.53    1004.96  10.514  < 2e-16 ***
Unit.for.AnalysisA&S-SS     2617.95    1030.49   2.540   0.0117 *
Unit.for.AnalysisCET       27117.59    1048.95  25.852  < 2e-16 ***
Unit.for.AnalysisCFAC       9573.50    1066.84   8.974  < 2e-16 ***
Unit.for.AnalysisCOB       13500.87     874.71  15.435  < 2e-16 ***
Unit.for.AnalysisCOE       14830.02    1046.18  14.175  < 2e-16 ***
Unit.for.AnalysisHHP        8476.12     936.79   9.048  < 2e-16 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 3855 on 231 degrees of freedom
Multiple R-squared:  0.7968,    Adjusted R-squared:  0.7889
F-statistic: 100.6 on 9 and 231 DF,  p-value: < 2.2e-16
```

Model 2 Output

```
Call:
lm(formula = `9mo.SALARY` ~ Terminal.Degree + perm_year + Unit.for.Analysis +
    academic_title, data = ab)

Residuals:
   Min      1Q Median      3Q    Max
 -8322   -2791   -348   2879   8955

Coefficients:
                                          Estimate Std. Error t value Pr(>|t|)
(Intercept)                               40027.03     801.00  49.972  < 2e-16 ***
Terminal.DegreeY                           2586.73     995.00   2.600 0.009939 **
perm_year                                   177.03      37.69   4.697 4.56e-06 ***
Unit.for.AnalysisA&S-NS                    9843.44     986.17   9.981  < 2e-16 ***
Unit.for.AnalysisA&S-SS                    2309.62    1022.45   2.259 0.024834 *
Unit.for.AnalysisCET                      26959.08    1042.07  25.871  < 2e-16 ***
Unit.for.AnalysisCFAC                      9439.51    1058.50   8.918  < 2e-16 ***
Unit.for.AnalysisCOB                      13416.97     885.22  15.157  < 2e-16 ***
Unit.for.AnalysisCOE                      14581.35    1032.65  14.120  < 2e-16 ***
Unit.for.AnalysisHHP                       8689.11     942.19   9.222  < 2e-16 ***
academic_title2. Assistant Professor       1549.64     995.70   1.556 0.121015
academic_title3. Associate Professor/Professor  4710.52  1296.52   3.633 0.000346 ***
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 3790 on 228 degrees of freedom
Multiple R-squared:  0.8045,    Adjusted R-squared:  0.7951
F-statistic: 85.31 on 11 and 228 DF,  p-value: < 2.2e-16
```

Appendix Three: CUPA-HR Benchmarks by Academic Title and Department

Benchmark salaries are median 9-month base salaries of all non-tenure track faculty reported by public and private not-for-profit doctoral-level institutions (N=393) to the College and University Professional Association for Human Resources (CUPA-HR) in the fall of 2019. These institutions are classified as Doctoral Universities: Very High Research Activities, Doctoral Universities: High Research Activity, and Doctoral/Professional Universities. For a list of these institutions, contact the Director of Institutional Research (iparresearch@ecu.edu) at the Office of Institutional Planning, Assessment and Research.

Benchmarks do not capture time in rank or years of experience in the field. Occasionally, benchmarks of a field reflect nation-wide salary compression or inversion (the latter is highlighted in yellow in the table below). Salary benchmark is not always available for all faculty in all ranks due to data confidentiality constraints, specialty area, or low number of faculty in a particular field and rank (highlighted in pink below). Because CUPA-HR benchmarks are identified based on ECU's four-digit departmental CIP codes, sub-disciplines within a department are not reflected.

College and Department	Instructor	Assistant Professor	Associate Professor	Professor	Average
College of Arts and Sciences					
Anthropology		57583	63439		61487
Biology	52832	60982	71158		60302
Chemistry	53298	60198	69672		62888
Criminal Justice	51863				51863
Economics	73476	84846	84325	104644	86823
English	45047	53302	64949		48972
Foreign Languages and Literatures	46562	53045	58802		50723
Geography, Planning and Environment	53152	57552	67608		59437
Geological Sciences		64976			64976
History		55000			55000
Mathematics	50000	59160	68038		52597
Philosophy and Religious Studies		57700			57700
Physics		61807			61807
Political Science		59592			59592
Psychology		61685	69619		64660
Sociology	48979	55950			53626
College of Business					
Accounting	77250				77250
Finance	81327	100000			85062
Management	70000				70000
Management Information Systems	70000				70000

College and Department	Instructor	Assistant Professor	Associate Professor	Professor	Average
Marketing and Supply Chain Management	71659				71659
School of Hospitality Leadership	62881	72538			65295
College of Education					
Elementary Education and Middle Grades Education	51403				51403
Adult Education, Counselor Education and Library Science	60000				60000
Literacy Studies, English Education, and History Education	52530	60030			57530
Special Education, Foundations and Research			75077		75077
Educational Leadership		65000			65000
Mathematics Education, Science Education and Instructional Technology	52530		77009		58650
College of Engineering and Technology					
CET Computer Science	74315				74315
CET Construction Management					
CET Engineering	67954	66713	81081		71527
CET Technology Systems					
College of Fine Arts and Communication					
School of Art and Design		58366			58366
School of Communication	48463		64326		51107
School of Music	49502	57759		73024	60095
School of Theatre and Dance	49797	56173			53623
College of Health and Human Performance					
Health Education and Promotion	58788				58788
Human Development and Family Science	53362				53362
Interior Design and Merchandising					
Kinesiology	51750				51750
Recreation Sciences	54218				54218
School of Social Work	53760				53760
Grand Total	**58259**	**60122**	**70099**	**83564**	**60156**