

PLAN INVESTMENT REVIEW | PERFORMANCE SUMMARY  
 THE UNIVERSITY OF NORTH CAROLINA  
 FOR THE PERIOD ENDING 9.30.17

INVESTMENT NAME	PROVIDER	Q3 '17	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*	Exp Ratio
<b>MONEY MARKET</b>							
Fidelity Government Money Market	Fidelity	0.16%	0.34%	0.13%	0.08%	0.41%	0.42
CREF Money Market R3	TIAA-CREF	0.15%	0.37%	0.15%	0.09%	0.42%	0.37
Vanguard Federal Money Market	TIAA-CREF	0.24%	0.63%	0.30%	0.18%	0.50%	
BofA Merrill Lynch 3-month U.S. T-Bill	Benchmark	0.26%	0.66%	0.32%	0.22%	0.47%	
<b>STABLE VALUE</b>							
Fidelity Managed Income Portfolio	Fidelity	0.33%	1.25%	1.21%	1.12%	1.57%	0.78
Lincoln Fixed Account*	Fidelity	0.50%	2.06%	-	-	-	-
TIAA Traditional Annuity - GRA	TIAA-CREF			Current Rate is 4.00%			
TIAA Traditional Annuity - GSRA	TIAA-CREF			Current Rate is 3.25%			
Hueler Stable Value Index (gross)	Peer Group	0.51%	1.89%	1.81%	1.81%	2.55%	
BofA Merrill Lynch 3-month U.S. T-Bill	Benchmark	0.26%	0.66%	0.32%	0.22%	0.47%	
<b>SHORT TERM BOND</b>							
Vanguard Short Term Bond Index I	Fidelity/TIAA-CREF	0.43%	0.40%	1.45%	1.12%	2.66%	0.06
Short Term Bond Universe	Peer Group	0.47%	1.23%	1.33%	1.15%	2.37%	
Barclays Government/Credit 1-3 Yr	Benchmark	0.34%	0.66%	1.05%	0.91%	2.09%	
<b>INTERMEDIATE TERM BOND</b>							
JPMorgan Core Bond R5	Fidelity	0.76%	0.18%	2.74%	2.11%	4.66%	0.53
Vanguard Total Bond Market Index Inst	TIAA-CREF/Fidelity	0.73%	-0.12%	2.63%	1.98%	4.25%	0.05
MetWest Total Return Bond	TIAA-CREF/Fidelity	0.74%	0.38%	2.48%	2.76%	5.67%	0.40
JPMorgan Core Bond R6	TIAA-CREF	0.87%	0.28%	2.83%	2.20%	4.73%	0.36
Intermediate Term Bond Universe	Peer Group	0.88%	0.86%	2.52%	2.19%	4.24%	
Barclays Aggregate Bond Index	Benchmark	0.85%	0.07%	2.71%	2.06%	4.27%	
<b>ALLOCATION--50% TO 70% EQUITY</b>							
Fidelity Balanced K	Fidelity	3.57%	13.36%	7.71%	10.11%	6.28%	0.46
Allocation-50% to 70% Equity Universe	Peer Group	3.06%	10.68%	5.57%	7.69%	5.09%	
60% S&P 500 40% BC Agg	Benchmark	3.03%	10.93%	7.60%	9.32%	6.57%	
<b>WORLD ALLOCATION</b>							
CREF Social Choice Account R3	TIAA-CREF	3.19%	10.89%	6.26%	8.34%	5.60%	0.33
World Allocation Universe	Peer Group	3.29%	10.17%	3.91%	5.71%	3.75%	
60% MSCI World 40% BC Agg Index	Benchmark	3.31%	11.00%	6.19%	7.83%	4.95%	
<b>ALLOCATION--85%+ EQUITY</b>							
CREF Stock R3	TIAA-CREF	5.27%	19.20%	8.96%	11.93%	5.57%	0.37
Allocation--85%+ Equity Universe	Peer Group	4.19%	16.11%	7.41%	10.69%	4.94%	
85% S&P 500, 15% BBgBarc Agg	Benchmark	3.93%	15.67%	9.64%	12.39%	7.12%	
<b>LARGE COMPANY VALUE</b>							
JHancock Disciplined Value R6	TIAA-CREF/Fidelity	4.70%	20.59%	8.49%	13.12%	7.33%	0.77
Large Value Universe	Peer Group	3.77%	16.45%	7.83%	12.19%	5.70%	
Russell 1000 Value	Benchmark	3.11%	15.12%	8.53%	13.20%	5.92%	

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\*403(b) Plan only

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<b>LARGE COMPANY BLEND</b>							
Vanguard Instl Index Fund	TIAA-CREF/Fidelity	4.48%	18.60%	10.81%	14.22%	7.46%	0.04
Large Blend Universe	Peer Group	4.27%	17.72%	9.02%	12.94%	6.56%	
S&P 500 Index	Benchmark	4.48%	18.61%	10.81%	14.22%	7.44%	
<b>LARGE COMPANY GROWTH</b>							
Vanguard FTSE Social Index Inv	Fidelity	4.76%	20.49%	11.56%	16.10%	7.36%	0.25
Fidelity Contrafund K	Fidelity	6.12%	23.32%	12.14%	14.67%	8.64%	0.61
T Rowe Price Instl Large Cap Growth	TIAA-CREF/Fidelity	7.38%	30.72%	15.00%	17.84%	10.39%	0.56
Large Growth Universe	Peer Group	5.38%	19.89%	10.51%	13.78%	7.59%	
Russell 1000 Growth	Benchmark	5.90%	21.94%	12.69%	15.26%	9.08%	
<b>MEDIUM COMPANY VALUE</b>							
MFS Mid Cap Value R4	Fidelity	2.44%	13.80%	9.09%	14.01%	7.86%	0.94
MFS Mid Cap Value R6	TIAA-CREF	2.48%	13.95%	9.26%	14.13%	7.77%	0.84
Mid Value Universe	Peer Group	2.81%	14.74%	7.98%	12.81%	6.86%	
Russell MidCap Value	Benchmark	2.14%	13.37%	9.19%	14.33%	7.85%	
<b>MEDIUM COMPANY BLEND</b>							
Vanguard Ext Mkt Idx Instl Plus	TIAA-CREF/Fidelity	4.97%	19.04%	10.48%	14.25%	8.29%	0.06
Mid Blend Universe	Peer Group	3.27%	15.58%	7.96%	12.73%	6.82%	
Russell MidCap	Benchmark	3.47%	15.32%	9.54%	14.26%	8.08%	
<b>MEDIUM COMPANY GROWTH</b>							
MassMutual Select Mid Cap Gr Eq II	TIAA-CREF/Fidelity	4.28%	19.83%	13.29%	16.05%	9.68%	0.75
Mid Growth Universe	Peer Group	4.56%	18.33%	9.32%	12.70%	7.08%	
Russell MidCap Growth	Benchmark	5.28%	17.82%	9.96%	14.18%	8.20%	
<b>FOREIGN LARGE VALUE</b>							
MFS International Value R4	Fidelity	3.22%	13.21%	10.22%	12.16%	6.08%	0.84
MFS International Value R6	TIAA-CREF	3.24%	13.31%	10.33%	12.27%	6.13%	0.69
Foreign Large Value Universe	Peer Group	5.32%	18.80%	3.81%	7.24%	0.66%	
MSCI EAFE	Benchmark	5.47%	19.65%	5.53%	8.87%	1.82%	
<b>FOREIGN LARGE BLEND</b>							
Amer Funds EuroPac R6	TIAA-CREF	6.86%	20.63%	7.56%	9.51%	3.60%	0.49
Amer Funds EuroPac R4	Fidelity	6.77%	20.21%	7.20%	9.13%	3.30%	0.85
Vanguard Total Intl Stock Index Inst	TIAA-CREF/Fidelity	5.97%	19.30%	5.32%	7.51%	1.33%	0.10
Foreign Large Blend Universe	Peer Group	5.41%	18.28%	4.99%	7.77%	1.26%	
MSCI EAFE	Benchmark	5.47%	19.65%	5.53%	8.87%	1.82%	
<b>FOREIGN SMALL/MID GROWTH</b>							
T Rowe Price International Discovery	TIAA-CREF/Fidelity	9.32%	25.06%	13.09%	13.71%	6.09%	1.20
Foreign Small/Mid Growth Universe	Peer Group	7.81%	19.80%	9.31%	10.86%	4.23%	
MSCI World ex USA Smid Cap USD	Benchmark	6.71%	19.88%	9.00%	10.78%	3.56%	
<b>SMALL COMPANY VALUE</b>							
Goldman Sachs Small Value Inst	TIAA-CREF/Fidelity	6.00%	19.98%	11.12%	14.03%	9.01%	0.99
Small Value Universe	Peer Group	4.66%	18.19%	9.47%	12.48%	7.24%	
Russell 2000 Value	Benchmark	5.11%	20.55%	12.12%	13.27%	7.14%	

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<b>SMALL COMPANY GROWTH</b>							
Eagle Small Cap Growth R5	Fidelity	3.97%	19.86%	11.16%	12.88%	8.78%	0.75
Eagle Small Cap Growth R6	TIAA-CREF	3.99%	20.01%	11.28%	13.01%	8.68%	0.66
Small Growth Universe	Peer Group	5.46%	20.13%	11.00%	12.91%	7.64%	
Russell 2000 Growth	Benchmark	6.22%	20.98%	12.17%	14.28%	8.47%	
<b>SPECIALTY-REAL ESTATE</b>							
Cohen & Steers Realty Shares	Fidelity	-0.03%	0.24%	9.77%	9.57%	5.98%	0.96
Cohen & Steers Instl Realty Shares	TIAA-CREF	0.11%	0.63%	10.02%	9.84%	6.19%	0.75
Specialty-Real Estate Universe	Peer Group	0.62%	0.54%	8.54%	8.53%	5.20%	
Dow Jones US Select REIT	Benchmark	0.38%	-0.83%	9.28%	9.16%	5.31%	
<b>SPECIALTY-REAL ESTATE</b>							
TIAA Real Estate Account	TIAA-CREF	1.08%	4.34%	6.74%	8.04%	2.58%	0.87
Specialty-Real Estate Universe	Peer Group	0.62%	0.54%	8.54%	8.53%	5.20%	
NCREIF Property Index	Benchmark	1.70%	6.90%	9.83%	10.35%	6.23%	
<b>TARGET DATE</b>							
Vanguard Instl Target Retirement Income Instl	TIAA-CREF/Fidelity	1.99%	5.30%	-	-	-	0.10
Retirement Income Moderate	Peer Group	2.30%	6.30%	4.12%	4.63%	4.16%	
Morningstar Lifetime Moderate Income Index	Benchmark	2.16%	5.37%	3.77%	4.29%	-	
Vanguard Instl Target Retirement 2015 Instl	TIAA-CREF/Fidelity	2.63%	8.02%	-	-	-	0.10
2015 Moderate	Peer Group	2.68%	8.55%	4.86%	6.36%	4.05%	
Morningstar Lifetime Moderate 2015 Index	Benchmark	2.69%	7.16%	4.79%	5.97%	-	
Vanguard Instl Target Retirement 2020 Instl	TIAA-CREF/Fidelity	3.16%	10.17%	-	-	-	0.10
2020 Moderate	Peer Group	3.16%	10.13%	5.41%	7.47%	4.32%	
Morningstar Lifetime Moderate 2020 Index	Benchmark	2.98%	8.34%	5.28%	6.82%	-	
Vanguard Instl Target Retirement 2025 Instl	TIAA-CREF/Fidelity	3.55%	11.85%	-	-	-	0.10
2025 Conservative	Peer Group	3.02%	9.82%	5.44%	6.89%	4.26%	
Morningstar Lifetime Conservative 2025 Index	Benchmark	2.62%	6.53%	4.79%	5.79%	-	
Vanguard Instl Target Retirement 2030 Instl	TIAA-CREF/Fidelity	3.86%	13.27%	-	-	-	0.10
2030 Conservative	Peer Group	3.59%	11.62%	6.04%	7.66%	4.11%	
Morningstar Lifetime Conservative 2030 Index	Benchmark	2.96%	8.11%	5.37%	6.80%	-	
Vanguard Instl Target Retirement 2035 Instl	TIAA-CREF/Fidelity	4.21%	14.85%	-	-	-	0.10
2035 Conservative	Peer Group	3.98%	13.79%	6.58%	8.74%	4.58%	
Morningstar Lifetime Conservative 2035 Index	Benchmark	3.41%	10.22%	6.05%	7.91%	-	
Vanguard Instl Target Retirement 2040 Instl	TIAA-CREF/Fidelity	4.51%	16.35%	-	-	-	0.10
2040 Moderate	Peer Group	4.46%	15.76%	7.46%	10.15%	4.99%	
Morningstar Lifetime Moderate 2040 Index	Benchmark	4.56%	15.60%	7.45%	10.13%	-	
Vanguard Instl Target Retirement 2045 Instl	TIAA-CREF/Fidelity	4.68%	16.87%	-	-	-	0.10
2045 Moderate	Peer Group	4.53%	16.14%	7.47%	9.73%	4.86%	
Morningstar Lifetime Moderate 2045 Index	Benchmark	4.73%	16.22%	7.55%	10.20%	-	
Vanguard Instl Target Retirement 2050 Instl	TIAA-CREF/Fidelity	4.67%	16.92%	-	-	-	0.10
2050 Moderate	Peer Group	4.49%	16.23%	7.58%	10.12%	5.24%	
Morningstar Lifetime Moderate 2050 Index	Benchmark	4.79%	16.39%	7.52%	10.14%	-	

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<b>Vanguard Instl Target Retirement 2055 Instl</b> 2055 Moderate	<b>TIAA-CREF/Fidelity</b>	<b>4.71%</b>	<b>16.95%</b>	-	-	-	0.10
Morningstar Lifetime Moderate 2055 Index	<b>Peer Group</b>	4.63%	16.57%	7.95%	10.44%	6.06%	
	<b>Benchmark</b>	4.83%	16.46%	7.47%	10.04%	-	
<b>Vanguard Instl Target Retirement 2060 Instl</b> 2060+ Moderate	<b>TIAA-CREF/Fidelity</b>	<b>4.67%</b>	<b>16.90%</b>	-	-	-	0.10
Morningstar Lifetime Moderate 2060 Index	<b>Peer Group</b>	4.69%	16.80%	8.42%	10.93%	-	
	<b>Benchmark</b>	4.86%	16.48%	7.39%	-	-	

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