

PLAN INVESTMENT REVIEW | PERFORMANCE SUMMARY
 THE UNIVERSITY OF NORTH CAROLINA
 FOR THE PERIOD ENDING 9.30.16

INVESTMENT NAME	PROVIDER	Q3 '16	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*	Exp Ratio
MONEY MARKET							
Fidelity Retirement Money Market	Fidelity	0.01%	0.03%	0.02%	0.01%	0.99%	0.42
CREF Money Market R3	TIAA-CREF	0.04%	0.09%	0.03%	0.02%	0.87%	0.37
BofA Merrill Lynch 3-month U.S. T-Bill	Benchmark	0.10%	0.27%	0.11%	0.10%	0.82%	
STABLE VALUE							
Fidelity Managed Income Portfolio	Fidelity	0.32%	1.24%	1.10%	1.14%	1.87%	0.78
Lincoln Fixed Account*	Fidelity	0.56%	-	-	-	-	-
TIAA Traditional Annuity - GRA	TIAA-CREF			Current Rate is 3.75%			
TIAA Traditional Annuity - GSRA	TIAA-CREF			Current Rate is 3.00%			
Hueler Stable Value Index (gross)	Peer Group	0.45%	1.78%	1.74%	1.90%	2.85%	
BofA Merrill Lynch 3-month U.S. T-Bill	Benchmark	0.10%	0.27%	0.11%	0.10%	0.92%	
SHORT TERM BOND							
Vanguard Short Term Bond Index I	Fidelity/TIAA-CREF	0.09%	2.00%	1.67%	1.52%	3.19%	0.06
Morningstar Short Term Bond Universe	Peer Group	0.48%	2.11%	1.40%	1.76%	2.83%	
Barclays Government/Credit 1-3 Yr	Benchmark	0.02%	1.31%	1.09%	1.05%	2.59%	
INTERMEDIATE TERM BOND							
JPMorgan Core Bond R5	Fidelity	0.48%	4.85%	3.92%	3.26%	5.20%	0.53
Vanguard Total Bond Market Index Inst	TIAA-CREF/Fidelity	0.41%	5.32%	3.99%	3.01%	4.79%	0.05
MetWest Total Return Bond	TIAA-CREF/Fidelity	0.77%	4.87%	4.07%	4.78%	6.35%	0.40
JPMorgan Core Bond R6	TIAA-CREF	0.50%	4.95%	3.99%	3.34%	5.26%	0.36
Morningstar Intermediate Term Bond Universe	Peer Group	0.98%	5.26%	3.72%	3.49%	4.61%	
Barclays Aggregate Bond Index	Benchmark	0.46%	5.19%	4.03%	3.08%	4.79%	
ALLOCATION--50% TO 70% EQUITY							
Fidelity Balanced K	Fidelity	3.80%	10.96%	8.21%	11.35%	6.57%	0.46
Morningstar Allocation-50% to 70% Equity Universe	Peer Group	3.11%	9.08%	5.41%	9.22%	5.29%	
60% S&P 500 40% BC Agg	Benchmark	2.49%	11.43%	8.41%	11.05%	6.56%	
WORLD ALLOCATION							
CREF Social Choice Account R3	TIAA-CREF	3.30%	10.21%	5.96%	9.35%	5.55%	0.33
Morningstar World Allocation Universe	Peer Group	3.14%	8.30%	2.83%	6.70%	4.43%	
60% MSCI World 40% BC Agg Index	Benchmark	3.17%	9.47%	5.63%	8.70%	5.31%	
LARGE COMPANY VALUE							
JHancock Disciplined Value R5	TIAA-CREF/Fidelity	4.31%	10.30%	7.19%	15.58%	7.08%	0.77
Morningstar Large Value Universe	Peer Group	3.69%	13.08%	7.77%	14.11%	5.52%	
Russell 1000 Value	Benchmark	3.48%	16.20%	9.70%	16.15%	5.85%	
LARGE COMPANY BLEND							
Vanguard Instl Index Fund	TIAA-CREF/Fidelity	3.85%	15.41%	11.13%	16.35%	7.24%	0.04
CREF Stock R3	TIAA-CREF	5.26%	12.29%	7.08%	13.14%	5.60%	0.37
Morningstar Large Blend Universe	Peer Group	3.80%	12.04%	8.78%	14.73%	6.42%	
S&P 500 Index	Benchmark	3.85%	15.43%	11.16%	16.37%	7.24%	

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*403(b) Plan only

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LARGE COMPANY GROWTH							
Vanguard FTSE Social Index Inv	Fidelity	5.58%	13.13%	11.23%	17.08%	6.28%	0.25
Fidelity Contrafund K	Fidelity	5.24%	10.61%	10.36%	15.53%	8.73%	0.61
T Rowe Price Instl Large Cap Growth	TIAA-CREF/Fidelity	8.03%	9.98%	10.85%	17.61%	9.50%	0.56
Morningstar Large Growth Universe	Peer Group	5.60%	10.45%	9.29%	15.04%	7.58%	
Russell 1000 Growth	Benchmark	4.58%	13.76%	11.83%	16.60%	8.85%	
MEDIUM COMPANY VALUE							
MFS Mid Cap Value R4	Fidelity	4.25%	13.59%	9.03%	16.77%	8.10%	0.94
MFS Mid Cap Value R6	TIAA-CREF	4.37%	13.79%	9.21%	16.79%	7.97%	0.84
Morningstar Mid Value Universe	Peer Group	5.05%	13.24%	7.39%	14.99%	7.01%	
Russell MidCap Value	Benchmark	4.45%	17.26%	10.49%	17.38%	7.89%	
MEDIUM COMPANY BLEND							
Vanguard Ext Mkt Idx Inst	Fidelity	7.27%	13.46%	7.51%	16.35%	8.30%	0.07
Vanguard Ext Mkt Idx Instl Plus	TIAA-CREF	7.26%	13.48%	7.53%	16.37%	8.22%	0.06
Morningstar Mid Blend Universe	Peer Group	4.90%	10.57%	6.81%	14.44%	6.76%	
Russell MidCap	Benchmark	4.52%	14.25%	9.70%	16.67%	8.32%	
MEDIUM COMPANY GROWTH							
MassMutual Select Mid Cap Gr Eq II	TIAA-CREF/Fidelity	4.30%	10.74%	11.00%	16.93%	9.94%	0.75
Morningstar Mid Growth Universe	Peer Group	4.82%	8.43%	6.42%	13.91%	7.57%	
Russell MidCap Growth	Benchmark	4.59%	11.24%	8.90%	15.85%	8.51%	
FOREIGN LARGE VALUE							
MFS International Value R4	Fidelity	5.38%	16.52%	7.93%	13.05%	6.61%	0.84
MFS International Value R6	TIAA-CREF	5.43%	16.67%	8.04%	13.13%	6.69%	0.69
Morningstar Foreign Large Value Universe	Peer Group	6.23%	5.69%	-0.66%	6.24%	0.84%	
MSCI EAFE	Benchmark	6.50%	7.06%	0.93%	7.88%	2.30%	
FOREIGN LARGE BLEND							
Amer Funds EuroPac R6	TIAA-CREF	8.23%	8.52%	3.34%	9.11%	4.19%	0.49
Amer Funds EuroPac R4	Fidelity	8.13%	8.14%	2.99%	8.73%	3.92%	0.85
Vanguard Total Intl Stock Index Inst	TIAA-CREF/Fidelity	6.66%	9.67%	0.91%	6.81%	2.21%	0.10
Morningstar Foreign Large Blend Universe	Peer Group	6.19%	6.56%	0.58%	7.22%	1.79%	
MSCI EAFE	Benchmark	6.50%	7.06%	0.93%	7.88%	2.30%	
FOREIGN SMALL/MID GROWTH							
T Rowe Price International Discovery	TIAA-CREF/Fidelity	9.14%	13.55%	7.34%	13.03%	6.70%	1.20
Morningstar Foreign Small/Mid Growth Universe	Peer Group	6.86%	9.53%	3.87%	10.78%	5.30%	
MSCI World ex USA Smid Cap USD	Benchmark	7.67%	12.48%	3.88%	9.52%	3.94%	
SMALL COMPANY VALUE							
Goldman Sachs Small Value Inst	TIAA-CREF/Fidelity	6.77%	15.45%	7.78%	16.92%	8.39%	0.99
Morningstar Small Value Universe	Peer Group	7.28%	14.51%	5.78%	14.75%	6.54%	
Russell 2000 Value	Benchmark	8.87%	18.81%	6.77%	15.45%	5.78%	
SMALL COMPANY GROWTH							
Eagle Small Cap Growth R5	Fidelity	5.93%	11.83%	6.22%	14.12%	8.81%	0.75
Eagle Small Cap Growth R6	TIAA-CREF	5.96%	11.94%	6.34%	14.25%	8.66%	0.66
Morningstar Small Growth Universe	Peer Group	8.24%	10.54%	5.15%	14.46%	7.69%	
Russell 2000 Growth	Benchmark	9.22%	12.12%	6.58%	16.15%	8.29%	

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SPECIALTY-REAL ESTATE							
Cohen & Steers Realty Shares	Fidelity	-0.07%	18.17%	14.37%	15.37%	6.40%	0.96
Cohen & Steers Instl Realty Shares	TIAA-CREF	-0.02%	18.39%	14.57%	15.58%	6.63%	0.75
Morningstar Specialty-Real Estate Universe	Peer Group	-0.89%	16.61%	12.76%	14.66%	5.53%	
Dow Jones US Select REIT	Benchmark	-1.24%	17.70%	14.29%	15.60%	5.80%	
SPECIALTY-REAL ESTATE							
TIAA Real Estate Account	TIAA-CREF	0.68%	5.59%	8.62%	9.31%	3.46%	0.87
Morningstar Specialty-Real Estate Universe	Peer Group	-0.89%	16.61%	12.76%	14.66%	5.53%	
NCREIF Property Index	Benchmark	1.77%	9.22%	11.30%	11.18%	7.22%	
TARGET DATE							
Vanguard Instl Target Retirement Income Instl	TIAA-CREF/Fidelity	1.91%	7.66%	-	-	-	0.10
Retirement Income Moderate	Peer Group	2.09%	7.21%	4.01%	5.77%	4.28%	
Morningstar Lifetime Moderate Income Index	Benchmark	1.73%	7.57%	3.89%	5.74%	5.20%	
Vanguard Instl Target Retirement 2010 Instl	TIAA-CREF/Fidelity	2.01%	7.87%	-	-	-	0.10
2000-2015 Conservative	Peer Group	2.05%	7.24%	3.72%	4.90%	3.72%	
Morningstar Lifetime Conservative 2010 Index	Benchmark	1.53%	7.72%	4.02%	5.35%	5.43%	
Vanguard Instl Target Retirement 2015 Instl	TIAA-CREF/Fidelity	2.74%	9.14%	-	-	-	0.10
2015 Moderate	Peer Group	2.76%	8.46%	4.60%	7.89%	4.52%	
Morningstar Lifetime Moderate 2015 Index	Benchmark	2.30%	9.41%	5.06%	7.78%	5.81%	
Vanguard Instl Target Retirement 2020 Instl	TIAA-CREF/Fidelity	3.31%	10.16%	-	-	-	0.10
2020 Moderate	Peer Group	3.16%	8.78%	4.99%	9.15%	4.40%	
Morningstar Lifetime Moderate 2020 Index	Benchmark	2.63%	10.13%	5.45%	8.71%	5.89%	
Vanguard Instl Target Retirement 2025 Instl	TIAA-CREF/Fidelity	3.70%	10.76%	-	-	-	0.10
2025 Conservative	Peer Group	3.25%	9.00%	4.88%	8.28%	4.35%	
Morningstar Lifetime Conservative 2025 Index	Benchmark	2.32%	9.84%	5.24%	7.67%	5.96%	
Vanguard Instl Target Retirement 2030 Instl	TIAA-CREF/Fidelity	4.09%	11.30%	-	-	-	0.10
2030 Conservative	Peer Group	3.63%	10.04%	5.10%	8.89%	4.35%	
Morningstar Lifetime Conservative 2030 Index	Benchmark	2.76%	10.63%	5.63%	8.75%	6.05%	
Vanguard Instl Target Retirement 2035 Instl	TIAA-CREF/Fidelity	4.39%	11.68%	-	-	-	0.10
20.35 Conservative	Peer Group	4.14%	9.92%	5.22%	9.99%	4.68%	
Morningstar Lifetime Conservative 2035 Index	Benchmark	3.31%	11.44%	5.91%	9.76%	6.14%	
Vanguard Instl Target Retirement 2040 Instl	TIAA-CREF/Fidelity	4.74%	12.12%	-	-	-	0.10
2040 Moderate	Peer Group	4.48%	10.87%	5.85%	11.57%	5.21%	
Morningstar Lifetime Moderate 2040 Index	Benchmark	4.54%	12.78%	6.09%	11.47%	6.11%	
Vanguard Instl Target Retirement 2045 Instl	TIAA-CREF/Fidelity	4.85%	12.24%	-	-	-	0.10
2045 Moderate	Peer Group	4.66%	11.08%	5.44%	11.21%	5.08%	
Morningstar Lifetime Moderate 2045 Index	Benchmark	4.73%	12.94%	5.96%	11.40%	6.07%	
Vanguard Instl Target Retirement 2050 Instl	TIAA-CREF/Fidelity	4.79%	12.23%	-	-	-	0.10
2050 Moderate	Peer Group	4.71%	11.25%	5.72%	11.38%	5.44%	
Morningstar Lifetime Moderate 2050 Index	Benchmark	4.81%	12.99%	5.82%	11.28%	6.03%	
Vanguard Instl Target Retirement 2055 Instl	TIAA-CREF/Fidelity	4.79%	12.16%	-	-	-	0.10
2055 Moderate	Peer Group	4.70%	11.50%	6.23%	11.62%	-	
Morningstar Lifetime Moderate 2055 Index	Benchmark	4.87%	13.02%	5.67%	11.14%	5.96%	

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Vanguard Instl Target Retirement 2060 Instl	TIAA-CREF/Fidelity	4.85%	12.21%	-	-	-	0.10
2060+ Moderate	Peer Group	4.94%	11.86%	6.52%	-	-	
Morningstar Lifetime Moderate 2060 Index	Benchmark	4.92%	13.01%	5.54%	11.01%	5.99%	

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