

PLAN INVESTMENT REVIEW | PERFORMANCE SUMMARY
 THE UNIVERSITY OF NORTH CAROLINA
 FOR THE PERIOD ENDING 3.31.17

INVESTMENT NAME	PROVIDER	Q1 '16	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*	Exp Ratio
MONEY MARKET							
Fidelity Retirement Money Market	Fidelity	0.06%	0.10%	0.04%	0.03%	0.75%	0.42
CREF Money Market R3	TIAA-CREF	0.06%	0.18%	0.07%	0.04%	0.64%	0.37
Vanguard Federal Money Market	TIAA-CREF	0.12%	0.36%	0.16%	0.10%	0.72%	
BofA Merrill Lynch 3-month U.S. T-Bill	Benchmark	0.10%	0.36%	0.17%	0.14%	0.68%	
STABLE VALUE							
Fidelity Managed Income Portfolio	Fidelity	0.29%	1.24%	1.15%	1.12%	1.72%	0.78
Lincoln Fixed Account*	Fidelity	0.50%	2.19%	-	-	-	-
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	0.44%	1.80%	1.76%	1.84%	2.70%	
BofA Merrill Lynch 3-month U.S. T-Bill	Benchmark	0.10%	0.36%	0.17%	0.14%	0.68%	
SHORT TERM BOND							
Vanguard Short Term Bond Index I	Fidelity/TIAA-CREF	0.49%	0.40%	1.28%	1.21%	2.86%	0.06
Morningstar Short Term Bond Universe	Peer Group	0.62%	1.66%	1.08%	1.36%	2.47%	
Barclays Government/Credit 1-3 Yr	Benchmark	0.41%	0.71%	0.96%	0.93%	2.34%	
INTERMEDIATE TERM BOND							
JPMorgan Core Bond R5	Fidelity	0.97%	0.61%	2.61%	2.42%	4.68%	0.53
Vanguard Total Bond Market Index Inst	TIAA-CREF/Fidelity	0.91%	0.44%	2.61%	2.28%	4.26%	0.05
MetWest Total Return Bond	TIAA-CREF/Fidelity	0.96%	1.03%	2.63%	3.74%	5.69%	0.40
JPMorgan Core Bond R6	TIAA-CREF	0.91%	0.63%	2.66%	2.47%	4.74%	0.36
Morningstar Intermediate Term Bond Universe	Peer Group	1.06%	1.75%	2.42%	2.58%	4.16%	
Barclays Aggregate Bond Index	Benchmark	0.82%	0.44%	2.68%	2.34%	4.27%	
ALLOCATION--50% TO 70% EQUITY							
Fidelity Balanced K	Fidelity	5.54%	12.94%	7.15%	9.42%	6.36%	0.46
Morningstar Allocation-50% to 70% Equity Universe	Peer Group	3.85%	10.57%	4.49%	7.06%	5.20%	
60% S&P 500 40% BC Agg	Benchmark	3.95%	10.26%	7.38%	8.94%	6.52%	
WORLD ALLOCATION							
CREF Social Choice Account R3	TIAA-CREF	3.80%	9.68%	5.09%	7.41%	5.39%	0.33
Morningstar World Allocation Universe	Peer Group	4.22%	9.12%	2.13%	4.79%	3.92%	
60% MSCI World 40% BC Agg Index	Benchmark	4.22%	9.26%	4.88%	7.03%	4.95%	
LARGE COMPANY VALUE							
JHancock Disciplined Value R6	TIAA-CREF/Fidelity	3.87%	18.97%	6.87%	12.34%	7.39%	0.77
Morningstar Large Value Universe	Peer Group	3.70%	17.44%	7.28%	11.51%	5.72%	
Russell 1000 Value	Benchmark	3.27%	19.22%	8.67%	13.13%	5.93%	
LARGE COMPANY BLEND							
Vanguard Instl Index Fund	TIAA-CREF/Fidelity	6.06%	17.16%	10.37%	13.30%	7.53%	0.04
CREF Stock R3	TIAA-CREF	6.75%	16.44%	6.70%	10.22%	5.48%	0.37
Morningstar Large Blend Universe	Peer Group	5.56%	15.96%	8.12%	11.73%	6.59%	
S&P 500 Index	Benchmark	6.07%	17.17%	10.37%	13.30%	7.51%	

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*403(b) Plan only

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LARGE COMPANY GROWTH							
Vanguard FTSE Social Index Inv	Fidelity	7.11%	19.10%	10.53%	14.57%	6.85%	0.25
Fidelity Contrafund K	Fidelity	10.10%	15.72%	9.83%	12.60%	8.88%	0.61
T Rowe Price Instl Large Cap Growth	TIAA-CREF/Fidelity	10.70%	21.70%	10.84%	14.13%	10.06%	0.56
Morningstar Large Growth Universe	Peer Group	8.64%	14.82%	8.54%	11.58%	7.74%	
Russell 1000 Growth	Benchmark	8.91%	15.76%	11.27%	13.32%	9.13%	
MEDIUM COMPANY VALUE							
MFS Mid Cap Value R4	Fidelity	3.53%	15.38%	7.60%	13.37%	7.54%	0.94
MFS Mid Cap Value R6	TIAA-CREF	3.60%	15.59%	7.75%	13.45%	7.42%	0.84
Morningstar Mid Value Universe	Peer Group	3.54%	18.90%	6.97%	12.02%	6.81%	
Russell MidCap Value	Benchmark	3.76%	19.82%	8.94%	14.07%	7.47%	
MEDIUM COMPANY BLEND							
Vanguard Ext Mkt Idx Instl Plus	TIAA-CREF/Fidelity	4.57%	22.53%	7.18%	12.64%	7.95%	0.06
Morningstar Mid Blend Universe	Peer Group	4.18%	17.15%	6.47%	11.55%	6.80%	
Russell MidCap	Benchmark	5.15%	17.03%	8.48%	13.09%	7.94%	
MEDIUM COMPANY GROWTH							
MassMutual Select Mid Cap Gr Eq II	TIAA-CREF/Fidelity	8.12%	15.45%	9.99%	13.62%	10.05%	0.75
Morningstar Mid Growth Universe	Peer Group	7.34%	15.57%	6.06%	10.31%	7.28%	
Russell MidCap Growth	Benchmark	6.89%	14.07%	7.88%	11.95%	8.13%	
FOREIGN LARGE VALUE							
MFS International Value R4	Fidelity	7.29%	8.93%	6.25%	10.50%	5.53%	0.84
MFS International Value R6	TIAA-CREF	7.31%	9.04%	6.36%	10.61%	5.60%	0.69
Morningstar Foreign Large Value Universe	Peer Group	7.07%	12.20%	-0.42%	4.81%	0.39%	
MSCI EAFE	Benchmark	7.39%	12.25%	0.96%	6.32%	1.53%	
FOREIGN LARGE BLEND							
Amer Funds EuroPac R6	TIAA-CREF	9.37%	13.10%	2.17%	6.64%	3.51%	0.49
Amer Funds EuroPac R4	Fidelity	9.27%	12.70%	1.82%	6.27%	3.23%	0.85
Vanguard Total Intl Stock Index Inst	TIAA-CREF/Fidelity	8.46%	13.73%	1.11%	4.85%	1.37%	0.10
Morningstar Foreign Large Blend Universe	Peer Group	7.77%	10.91%	0.40%	5.10%	1.04%	
MSCI EAFE	Benchmark	7.39%	12.25%	0.96%	6.32%	1.53%	
FOREIGN SMALL/MID GROWTH							
T Rowe Price International Discovery	TIAA-CREF/Fidelity	10.51%	13.62%	6.02%	10.31%	5.49%	1.20
Morningstar Foreign Small/Mid Growth Universe	Peer Group	9.05%	7.73%	1.84%	7.74%	3.76%	
MSCI World ex USA Smid Cap USD	Benchmark	7.55%	11.13%	2.88%	7.66%	2.60%	
SMALL COMPANY VALUE							
Goldman Sachs Small Value Inst	TIAA-CREF/Fidelity	1.57%	26.16%	7.82%	12.98%	8.32%	0.99
Morningstar Small Value Universe	Peer Group	0.37%	23.33%	6.15%	11.53%	6.58%	
Russell 2000 Value	Benchmark	-0.13%	29.37%	7.62%	12.54%	6.09%	
SMALL COMPANY GROWTH							
Eagle Small Cap Growth R5	Fidelity	10.00%	25.97%	8.26%	11.29%	8.88%	0.75
Eagle Small Cap Growth R6	TIAA-CREF	10.01%	26.13%	8.38%	11.42%	8.76%	0.66
Morningstar Small Growth Universe	Peer Group	5.58%	22.52%	5.43%	10.69%	7.43%	
Russell 2000 Growth	Benchmark	5.35%	23.03%	6.72%	12.10%	8.05%	

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SPECIALTY-REAL ESTATE							
Cohen & Steers Realty Shares	Fidelity	1.48%	3.31%	10.12%	9.62%	4.95%	0.96
Cohen & Steers Instl Realty Shares	TIAA-CREF	1.55%	3.55%	10.34%	9.87%	5.17%	0.75
Morningstar Specialty-Real Estate Universe	Peer Group	0.85%	2.67%	8.99%	8.86%	4.13%	
Dow Jones US Select REIT	Benchmark	-0.27%	1.21%	9.96%	8.71%	3.87%	
SPECIALTY-REAL ESTATE							
TIAA Real Estate Account	TIAA-CREF	1.13%	4.42%	8.06%	8.58%	3.09%	0.87
Morningstar Specialty-Real Estate Universe	Peer Group	0.85%	2.67%	8.99%	8.86%	4.13%	
NCREIF Property Index	Benchmark	1.55%	7.27%	10.58%	10.69%	6.71%	
TARGET DATE							
Vanguard Instl Target Retirement Income Instl	TIAA-CREF/Fidelity	2.47%	5.48%	-	-	-	0.10
Retirement Income Moderate	Peer Group	2.70%	5.98%	3.15%	4.24%	3.99%	
Morningstar Lifetime Moderate Income Index	Benchmark	2.39%	5.93%	3.06%	4.19%	4.84%	
Vanguard Instl Target Retirement 2010 Instl	TIAA-CREF/Fidelity	2.52%	5.64%	-	-	-	0.10
2000-2010 Conservative	Peer Group	2.65%	5.36%	2.95%	3.65%	3.31%	
Morningstar Lifetime Conservative 2010 Index	Benchmark	2.12%	4.68%	2.83%	3.72%	4.92%	
Vanguard Instl Target Retirement 2015 Instl	TIAA-CREF/Fidelity	3.37%	7.79%	-	-	-	0.10
2015 Moderate	Peer Group	3.51%	8.47%	3.81%	5.94%	4.30%	
Morningstar Lifetime Moderate 2015 Index	Benchmark	3.03%	7.56%	3.80%	5.62%	5.25%	
Vanguard Instl Target Retirement 2020 Instl	TIAA-CREF/Fidelity	4.12%	9.51%	-	-	-	0.10
2020 Moderate	Peer Group	4.09%	9.31%	4.09%	6.76%	4.35%	
Morningstar Lifetime Moderate 2020 Index	Benchmark	3.39%	8.60%	4.13%	6.30%	5.29%	
Vanguard Instl Target Retirement 2025 Instl	TIAA-CREF/Fidelity	4.62%	10.79%	-	-	-	0.10
2025 Conservative	Peer Group	3.90%	9.34%	4.13%	6.23%	3.97%	
Morningstar Lifetime Conservative 2025 Index	Benchmark	3.00%	7.02%	3.74%	5.42%	5.30%	
Vanguard Instl Target Retirement 2030 Instl	TIAA-CREF/Fidelity	5.09%	11.93%	-	-	-	0.10
2030 Conservative	Peer Group	4.57%	11.12%	4.51%	6.76%	3.86%	
Morningstar Lifetime Conservative 2030 Index	Benchmark	3.47%	8.42%	4.13%	6.25%	5.39%	
Vanguard Instl Target Retirement 2035 Instl	TIAA-CREF/Fidelity	5.55%	13.14%	-	-	-	0.10
2035 Conservative	Peer Group	5.11%	12.23%	4.70%	7.57%	4.36%	
Morningstar Lifetime Conservative 2035 Index	Benchmark	4.06%	10.28%	4.54%	7.13%	5.54%	
Vanguard Instl Target Retirement 2040 Instl	TIAA-CREF/Fidelity	6.02%	14.38%	-	-	-	0.10
2040 Moderate	Peer Group	5.88%	13.39%	5.28%	8.73%	4.91%	
Morningstar Lifetime Moderate 2040 Index	Benchmark	5.37%	14.90%	5.36%	8.88%	5.74%	
Vanguard Instl Target Retirement 2045 Instl	TIAA-CREF/Fidelity	6.21%	14.79%	-	-	-	0.10
2045 Moderate	Peer Group	5.94%	13.88%	5.15%	8.27%	4.84%	
Morningstar Lifetime Moderate 2045 Index	Benchmark	5.54%	15.40%	5.34%	8.87%	5.71%	
Vanguard Instl Target Retirement 2050 Instl	TIAA-CREF/Fidelity	6.21%	14.73%	-	-	-	0.10
2050 Moderate	Peer Group	5.99%	13.97%	5.28%	8.65%	5.61%	
Morningstar Lifetime Moderate 2050 Index	Benchmark	5.61%	15.53%	5.24%	8.78%	5.65%	
Vanguard Instl Target Retirement 2055 Instl	TIAA-CREF/Fidelity	6.25%	14.77%	-	-	-	0.10
2055 Moderate	Peer Group	6.00%	14.34%	5.75%	8.92%	5.91%	
Morningstar Lifetime Moderate 2055 Index	Benchmark	5.66%	15.57%	5.13%	8.65%	5.58%	

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Vanguard Instl Target Retirement 2060 Instl	TIAA-CREF/Fidelity	6.20%	14.78%	-	-	-	0.10
2060+ Moderate	Peer Group	6.15%	14.70%	6.14%	9.60%	-	
Morningstar Lifetime Moderate 2060 Index	Benchmark	5.70%	15.55%	5.02%	8.55%	-	

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