

PLAN INVESTMENT REVIEW | PERFORMANCE SUMMARY  
 THE UNIVERSITY OF NORTH CAROLINA  
 FOR THE PERIOD ENDING 06.30.19

INVESTMENT NAME	PROVIDER	Q2'19	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*	Exp Ratio
<b>MONEY MARKET</b>							
Fidelity Government Money Market	Fidelity	0.51%	1.91%	1.10%	0.61%	0.31%	0.42
CREF Money Market R3	TIAA-CREF	0.55%	2.06%	1.04%	0.63%	0.32%	0.23
Vanguard Federal Money Market	TIAA-CREF	0.58%	2.20%	1.30%	0.82%	0.42%	0.11
BofA Merrill Lynch 3-month U.S. T-Bill	Benchmark	0.64%	2.31%	1.38%	0.87%	0.49%	
<b>STABLE VALUE</b>							
Fidelity Managed Income Portfolio	Fidelity	0.47%	1.78%	1.47%	1.34%	1.26%	0.77
Lincoln Fixed Account*	Fidelity	0.52%	2.05%	2.06%	2.13%	2.44%	0.35
TIAA Traditional Annuity - GRA	TIAA-CREF	Current Rate is 3.50%					
TIAA Traditional Annuity - GSRA	TIAA-CREF	Current Rate is 3.00%					
Hueler Stable Value Index (gross)	Peer Group	0.60%	2.43%	2.12%	1.98%	2.21%	
BofA Merrill Lynch 3-month U.S. T-Bill	Benchmark	0.64%	2.31%	1.38%	0.87%	0.49%	
<b>SHORT TERM BOND</b>							
Vanguard Short Term Bond Index I	Fidelity/TIAA-CREF	1.83%	5.25%	1.67%	1.76%	2.13%	0.05
Short Term Bond Universe	Peer Group	1.52%	4.22%	1.95%	1.56%	2.49%	
Barclays Government/Credit 1-3 Yr	Benchmark	1.48%	4.27%	1.59%	1.46%	1.59%	
<b>INTERMEDIATE TERM BOND</b>							
JPMorgan Core Bond R5	Fidelity	3.04%	7.82%	2.42%	3.02%	4.14%	0.45
Vanguard Total Bond Mkt Index Inst	TIAA-CREF/Fidelity	3.08%	7.87%	2.23%	2.90%	3.84%	0.04
JPMorgan Core Bond R6	TIAA-CREF	3.06%	7.91%	2.51%	3.11%	4.22%	0.35
Intermediate Core Bond Universe	Peer Group	2.84%	7.18%	2.07%	2.51%	3.89%	
Barclays Aggregate Bond Index	Benchmark	3.08%	7.87%	2.31%	2.95%	3.90%	
<b>INTERMEDIATE CORE-PLUS BOND</b>							
MetWest Total Return Bond	TIAA-CREF/Fidelity	3.27%	8.25%	2.75%	2.99%	5.82%	0.37
Intermediate Core Plus Bond Universe	Peer Group	2.99%	7.38%	2.94%	2.84%	4.87%	
Barclays Aggregate Bond Index	Benchmark	3.08%	7.87%	2.31%	2.95%	3.90%	
<b>ALLOCATION--50% TO 70% EQUITY</b>							
Fidelity Balanced K	Fidelity	3.67%	6.71%	10.37%	7.55%	11.06%	0.46
Allocation-50% to 70% Equity Universe	Peer Group	3.07%	5.91%	7.78%	5.16%	8.99%	
60% S&P 500 40% BC Agg	Benchmark	3.96%	9.87%	9.51%	0.75%	10.50%	
<b>WORLD ALLOCATION</b>							
CREF Social Choice Account R3	TIAA-CREF	3.71%	7.84%	8.54%	5.83%	9.19%	0.24
World Allocation Universe	Peer Group	2.44%	3.43%	6.22%	2.81%	7.22%	
60% MSCI World 40% BC Agg Index	Benchmark	3.94%	7.15%	9.77%	6.15%	9.10%	
<b>ALLOCATION--85%+ EQUITY</b>							
CREF Stock R3	TIAA-CREF	3.58%	4.97%	12.01%	7.31%	11.87%	0.30
Allocation--85%+ Equity Universe	Peer Group	3.23%	3.73%	10.15%	5.76%	10.74%	
85% S&P 500, 15% BBgBarc Agg	Benchmark	4.24%	10.28%	13.44%	10.22%	13.75%	
<b>LARGE COMPANY VALUE</b>							
JHancock Disciplined Value R6	TIAA-CREF	2.96%	4.17%	11.09%	6.89%	12.70%	0.70
JHancock Disciplined Value R5	Fidelity	2.91%	4.11%	11.03%	6.84%	12.66%	0.75
Large Value Universe	Peer Group	3.19%	5.91%	10.08%	6.72%	12.09%	
Russell 1000 Value	Benchmark	3.84%	8.46%	10.19%	7.46%	13.19%	
<b>LARGE COMPANY BLEND</b>							
Vanguard Instl Index PI Fund	TIAA-CREF/Fidelity	4.30%	10.41%	14.17%	10.70%	14.70%	0.02
Large Blend Universe	Peer Group	3.87%	7.88%	12.47%	8.68%	13.20%	
S&P 500 Index	Benchmark	4.30%	10.42%	14.19%	10.71%	14.70%	
<b>LARGE COMPANY GROWTH</b>							
Vanguard FTSE Social Index I	Fidelity	4.58%	11.32%	16.05%	11.55%	15.60%	0.12
Fidelity Contrafund K	Fidelity	5.52%	8.02%	17.92%	12.64%	15.54%	0.65
T Rowe Price Instl Large Cap Gr	TIAA-CREF/Fidelity	3.00%	9.96%	23.13%	15.13%	17.80%	0.56
Large Growth Universe	Peer Group	4.72%	10.15%	17.13%	11.45%	14.75%	
Russell 1000 Growth	Benchmark	4.64%	11.56%	18.07%	13.39%	16.28%	
<b>MEDIUM COMPANY VALUE</b>							
MFS Mid Cap Value R4	Fidelity	4.63%	5.79%	9.62%	6.69%	14.65%	0.86
MFS Mid Cap Value R6	TIAA-CREF	4.66%	5.93%	9.80%	6.85%	14.64%	0.69
Mid Value Universe	Peer Group	2.91%	0.74%	8.75%	5.50%	12.68%	
Russell MidCap Value	Benchmark	3.19%	3.68%	8.95%	6.72%	14.56%	

Shading highlights performance at or above median for peer group if available, otherwise at or above benchmark.

\*403(b) Plan only

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<b>MEDIUM COMPANY BLEND</b>							
<b>Vanguard Ext Mkt Idx Instl Plus</b>	<b>TIAA-CREF/Fidelity</b>	<b>3.05%</b>	<b>2.06%</b>	<b>13.19%</b>	<b>7.84%</b>	<b>14.66%</b>	0.05
Mid Blend Universe	Peer Group	3.14%	2.42%	9.89%	5.76%	12.64%	
Russell MidCap	Benchmark	5.40%	13.94%	16.49%	11.10%	16.02%	
<b>MEDIUM COMPANY GROWTH</b>							
<b>MassMutual Sel Mid Cap Gr Eq II</b>	<b>TIAA-CREF/Fidelity</b>	<b>6.00%</b>	<b>15.13%</b>	<b>16.29%</b>	<b>12.31%</b>	<b>16.71%</b>	0.71
Mid Growth Universe	Peer Group	6.19%	11.41%	16.31%	10.31%	14.82%	
Russell MidCap Growth	Benchmark	5.40%	13.94%	16.49%	11.10%	16.02%	
<b>FOREIGN LARGE BLEND</b>							
<b>Amer Funds EuroPac R6</b>	<b>TIAA-CREF</b>	<b>3.87%</b>	<b>1.91%</b>	<b>10.84%</b>	<b>4.45%</b>	<b>8.15%</b>	0.49
<b>Amer Funds EuroPac R4</b>	<b>Fidelity</b>	<b>3.78%</b>	<b>1.57%</b>	<b>10.45%</b>	<b>4.09%</b>	<b>7.78%</b>	0.83
<b>Vanguard Total Intl Stock Index Inst</b>	<b>TIAA-CREF/Fidelity</b>	<b>2.81%</b>	<b>0.68%</b>	<b>9.00%</b>	<b>2.36%</b>	<b>6.63%</b>	0.08
<b>MFS International Intrinsic Value R4</b>	<b>Fidelity</b>	<b>4.33%</b>	<b>6.86%</b>	<b>10.40%</b>	<b>7.69%</b>	<b>11.30%</b>	0.76
<b>MFS International Intrinsic Value R6</b>	<b>TIAA-CREF</b>	<b>4.35%</b>	<b>6.96%</b>	<b>10.52%</b>	<b>7.79%</b>	<b>11.35%</b>	0.63
Foreign Large Blend Universe	Peer Group	3.13%	-0.42%	7.95%	1.84%	6.49%	
MSCI EAFE	Benchmark	3.97%	1.60%	9.65%	2.74%	7.40%	
<b>FOREIGN SMALL/MID GROWTH</b>							
<b>T Rowe Price International Discovery</b>	<b>Fidelity</b>	<b>2.88%</b>	<b>-6.72%</b>	<b>11.21%</b>	<b>6.66%</b>	<b>11.32%</b>	1.19
<b>T Rowe Price International Discovery I</b>	<b>TIAA-CREF</b>	<b>2.91%</b>	<b>-6.58%</b>	<b>11.36%</b>	<b>6.76%</b>	<b>11.38%</b>	1.07
Foreign Small/Mid Growth Universe	Peer Group	3.86%	-4.34%	9.39%	4.58%	10.45%	
MSCI World ex USA Smid Cap USD	Benchmark	2.80%	-3.77%	8.88%	366.00%	8.92%	
<b>SMALL COMPANY VALUE</b>							
<b>Goldman Sachs Small Value Inst</b>	<b>Fidelity</b>	<b>3.21%</b>	<b>-1.79%</b>	<b>9.98%</b>	<b>6.04%</b>	<b>14.01%</b>	0.95
<b>Goldman Sachs Small Value R6</b>	<b>TIAA-CREF</b>	<b>3.21%</b>	<b>-1.79%</b>	<b>9.99%</b>	<b>5.96%</b>	<b>13.74%</b>	0.93
Small Value Universe	Peer Group	1.24%	-7.09%	7.98%	3.98%	11.77%	
Russell 2000 Value	Benchmark	1.38%	-6.24%	9.81%	5.39%	12.40%	
<b>SMALL COMPANY GROWTH</b>							
<b>Eagle Small Cap Growth R5</b>	<b>Fidelity</b>	<b>2.56%</b>	<b>0.95%</b>	<b>13.43%</b>	<b>8.87%</b>	<b>14.86%</b>	0.77
<b>Eagle Small Cap Growth R6</b>	<b>TIAA-CREF</b>	<b>2.59%</b>	<b>1.07%</b>	<b>13.56%</b>	<b>8.99%</b>	<b>14.86%</b>	0.65
Small Growth Universe	Peer Group	4.42%	4.24%	16.57%	9.44%	14.72%	
Russell 2000 Growth	Benchmark	2.75%	-0.49%	14.69%	8.63%	14.41%	
<b>SPECIALTY-REAL ESTATE</b>							
<b>Cohen &amp; Steers Realty Shares</b>	<b>Fidelity</b>	<b>3.44%</b>	<b>14.57%</b>	<b>6.21%</b>	<b>8.89%</b>	<b>15.61%</b>	0.97
<b>Cohen &amp; Steers Instl Realty Shares</b>	<b>TIAA-CREF</b>	<b>3.46%</b>	<b>14.67%</b>	<b>6.45%</b>	<b>9.12%</b>	<b>15.87%</b>	0.75
Specialty-Real Estate Universe	Peer Group	1.97%	10.64%	4.23%	7.22%	14.55%	
Dow Jones US Select REIT	Benchmark	0.82%	9.75%	3.73%	7.61%	15.40%	
<b>SPECIALTY-REAL ESTATE</b>							
<b>TIAA Real Estate Account</b>	<b>TIAA-CREF</b>	<b>1.32%</b>	<b>5.26%</b>	<b>4.74%</b>	<b>6.36%</b>	<b>6.91%</b>	0.83
Specialty-Real Estate Universe	Peer Group	1.97%	10.64%	4.23%	7.22%	14.55%	
NCREIF Property Index	Benchmark	1.51%	6.50%	6.89%	8.83%	9.25%	
<b>TARGET DATE</b>							
<b>Vanguard Target Retire Inc Tr Plus</b>	<b>TIAA-CREF/Fidelity</b>	<b>2.97%</b>	<b>6.63%</b>	<b>5.31%</b>	<b>4.26%</b>	-	0.06
Retirement Income Moderate	Peer Group	2.84%	5.84%	5.03%	3.60%	5.91%	
Morningstar Lifetime Moderate Income Index	Benchmark	2.59%	5.96%	5.28%	3.68%	6.29%	
<b>Vanguard Target Retire 2015 Tr Plus</b>	<b>TIAA-CREF/Fidelity</b>	<b>3.06%</b>	<b>6.49%</b>	<b>6.71%</b>	<b>4.97%</b>	-	0.06
2015 Moderate	Peer Group	2.82%	5.84%	6.23%	4.13%	7.71%	
Morningstar Lifetime Moderate 2015 Index	Benchmark	3.14%	6.92%	6.53%	4.52%	8.10%	
<b>Vanguard Target Retire 2020 Tr Plus</b>	<b>TIAA-CREF/Fidelity</b>	<b>3.22%</b>	<b>6.59%</b>	<b>7.90%</b>	<b>5.65%</b>	-	0.06
2020 Moderate	Peer Group	3.01%	5.83%	7.08%	4.60%	8.51%	
Morningstar Lifetime Moderate 2020 Index	Benchmark	3.30%	7.13%	7.21%	4.89%	8.85%	
<b>Vanguard Target Retire 2025 Tr Plus</b>	<b>TIAA-CREF/Fidelity</b>	<b>3.40%</b>	<b>6.72%</b>	<b>8.78%</b>	<b>6.06%</b>	-	0.06
2025 Moderate	Peer Group	3.18%	5.90%	8.00%	5.08%	9.32%	
Morningstar Lifetime Conservative 2025 Index	Benchmark	3.41%	7.16%	8.11%	5.32%	9.67%	
<b>Vanguard Target Retire 2030 Tr Plus</b>	<b>TIAA-CREF/Fidelity</b>	<b>3.43%</b>	<b>6.56%</b>	<b>9.50%</b>	<b>6.33%</b>	-	0.06
2030 Moderate	Peer Group	3.26%	5.83%	9.06%	5.68%	10.03%	
Morningstar Lifetime Conservative 2030 Index	Benchmark	3.46%	6.95%	9.17%	5.76%	10.40%	

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<b>Vanguard Target Retire 2035 Tr Plus</b>	<b>TIAA-CREF/Fidelity</b>	<b>3.45%</b>	<b>6.32%</b>	<b>10.20%</b>	<b>6.60%</b>	-	0.06
2035 Moderate	Peer Group	3.34%	5.55%	9.73%	5.98%	10.45%	
Morningstar Lifetime Conservative 2035 Index	Benchmark	3.43%	6.52%	10.11%	6.10%	10.88%	
<b>Vanguard Target Retire 2040 Tr Plus</b>	<b>TIAA-CREF/Fidelity</b>	<b>3.48%</b>	<b>6.10%</b>	<b>10.89%</b>	<b>6.84%</b>	-	0.06
2040 Moderate	Peer Group	3.39%	5.50%	10.24%	6.25%	10.71%	
Morningstar Lifetime Moderate 2040 Index	Benchmark	3.38%	6.07%	10.69%	6.26%	11.08%	
<b>Vanguard Target Retire 2045 Tr Plus</b>	<b>TIAA-CREF/Fidelity</b>	<b>3.49%</b>	<b>5.94%</b>	<b>11.12%</b>	<b>6.95%</b>	-	0.06
2045 Moderate	Peer Group	3.39%	5.20%	10.41%	6.15%	10.68%	
Morningstar Lifetime Moderate 2045 Index	Benchmark	3.33%	5.75%	10.90%	6.26%	11.08%	
<b>Vanguard Target Retire 2050 Tr Plus</b>	<b>TIAA-CREF/Fidelity</b>	<b>3.51%</b>	<b>5.96%</b>	<b>11.13%</b>	<b>6.95%</b>	-	0.06
2050 Moderate	Peer Group	3.45%	5.44%	10.55%	6.31%	10.82%	
Morningstar Lifetime Moderate 2050 Index	Benchmark	3.29%	5.58%	10.91%	6.18%	11.00%	
<b>Vanguard Target Retire 2055 Tr Plus</b>	<b>TIAA-CREF/Fidelity</b>	<b>3.51%</b>	<b>5.97%</b>	<b>11.13%</b>	<b>6.93%</b>	-	0.06
2055 Moderate	Peer Group	3.35%	4.85%	10.37%	6.24%	10.57	
Morningstar Lifetime Moderate 2055 Index	Benchmark	3.27%	5.46%	10.89%	6.08%	10.90%	
<b>Vanguard Target Retire 2060 Tr Plus</b>	<b>TIAA-CREF/Fidelity</b>	<b>3.50%</b>	<b>5.95%</b>	<b>11.13%</b>	<b>6.94%</b>	-	0.06
<b>Vanguard Target Retire 2065 Tr Plus</b>	<b>TIAA-CREF/Fidelity</b>	<b>3.52%</b>	<b>6.03%</b>	-	-	-	
2060+ Moderate	Peer Group	3.41%	5.10%	10.69%	6.66%	-	
Morningstar Lifetime Moderate 2060 Index	Benchmark	3.24%	5.35%	10.84%	5.99%	-	

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