

PLAN INVESTMENT REVIEW | PERFORMANCE SUMMARY
 THE UNIVERSITY OF NORTH CAROLINA
 FOR THE PERIOD ENDING 12/31/2022

INVESTMENT NAME	PROVIDER	Q4'22	1 YEAR*	3 YEAR*	5 YEAR*	10 YEAR*	Exp Ratio
MONEY MARKET							
Fidelity Government Money Market	Fidelity	0.54%	1.05%	0.44%	0.92%	0.52%	0.42
CREF Money Market R3	TIAA	0.81%	1.24%	0.54%	1.02%	0.57%	0.18
Vanguard Federal Money Market	TIAA	0.88%	1.55%	0.67%	1.18%	0.71%	0.11
BofA Merrill Lynch 3-month U.S. T-Bill	Benchmark	0.84%	1.46%	0.72%	1.26%	0.76%	
STABLE VALUE							
Fidelity Managed Income Portfolio	Fidelity	0.36%	1.20%	1.36%	1.61%	1.47%	0.50
Lincoln Fixed Account*	Fidelity	0.43%	1.62%	1.67%	1.82%	2.01%	0.35
TIAA Traditional Annuity - RA/GRA	TIAA			Current Rate is 6.00%			
TIAA Traditional Annuity - GSRA	TIAA			Current Rate is 5.25%			
Hueler Stable Value Index (gross)	Peer Group	0.55%	1.89%	1.96%	2.13%	1.97%	
ICE BofA ML US Treasury Bill 3-mon USD	Benchmark	0.84%	1.46%	0.72%	1.26%	0.76%	
SHORT TERM BOND							
Vanguard Short Term Bond Index InstlPIs	Fidelity/TIAA	1.07%	-5.51%	-0.70%	0.81%	0.93%	0.04
Short Term Bond Universe	Peer Group	1.14%	-4.92%	-0.42%	0.84%	0.97%	
Barclays Government/Credit 1-3 Yr	Benchmark	0.89%	-3.69%	-0.32%	0.92%	0.88%	
INTERMEDIATE TERM BOND							
JPMorgan Core Bond R5	Fidelity	1.18%	-12.30%	-2.08%	0.42%	1.27%	0.44
Vanguard Institutional Total Bond Market Index Trust	TIAA/Fidelity	-	-	-	-	-	0.03
JPMorgan Core Bond R6	TIAA	1.21%	-12.18%	-1.98%	0.52%	1.36%	0.34
JPMCB Core Bond Fund CF**	TIAA	1.30%	-12.21%	-1.90%	0.55%	1.40%	0.30
Intermediate Core Bond Universe	Peer Group	1.63%	-13.45%	-2.77%	-0.12%	0.93%	
Barclays Aggregate Bond Index	Benchmark	1.87%	-13.01%	-2.71%	0.02%	1.06%	
INTERMEDIATE CORE-PLUS BOND							
TCW MetWest Total Return Bond Fund CIT	TIAA/Fidelity	2.03%	-14.27%	-2.55%	0.25%	-	0.30
Intermediate Core Plus Bond Universe	Peer Group	1.81%	-13.83%	-2.56%	0.05%	1.24%	
Barclays Aggregate Bond Index	Benchmark	1.87%	-13.01%	-2.71%	0.02%	1.06%	
ALLOCATION--50% TO 70% EQUITY							
Fidelity Balanced K	Fidelity	5.10%	-18.12%	5.90%	7.27%	9.04%	0.43
Allocation-50% to 70% Equity Universe	Peer Group	6.51%	-15.00%	2.92%	4.08%	6.30%	
60% S&P 500 40% BC Agg	Benchmark	5.39%	-15.79%	3.83%	5.96%	8.08%	
WORLD ALLOCATION							
CREF Social Choice R3	TIAA	7.47%	-15.47%	2.63%	4.56%	6.60%	0.19
World Allocation Universe	Peer Group	7.96%	-13.46%	1.17%	2.48%	4.62%	
60% MSCI World 40% BC Agg Index	Benchmark	6.64%	-16.02%	1.65%	3.45%	5.39%	
ALLOCATION--85%+ EQUITY							
CREF Stock R3	TIAA	10.17%	-18.45%	4.57%	5.65%	9.12%	0.23
Allocation--85%+ Equity Universe	Peer Group	8.67%	-19.21%	3.64%	4.95%	8.33%	
85% S&P 500, 15% BBgBarc Agg	Benchmark	6.77%	-17.20%	6.28%	8.17%	10.91%	
LARGE COMPANY VALUE							
JHancock Disciplined Value R6	TIAA/ Fidelity	12.71%	-4.32%	8.23%	7.10%	10.67%	0.65
Large Value Universe	Peer Group	12.73%	-5.50%	6.92%	7.05%	10.16%	
Russell 1000 Value	Benchmark	12.42%	-7.54%	5.96%	6.67%	10.29%	
LARGE COMPANY BLEND							
Vanguard Institutional 500 Index Trust	TIAA/Fidelity	-	-	-	-	-	-
Vanguard FTSE Social Index I	Fidelity	5.16%	-24.20%	5.91%	8.98%	12.98%	0.12
Large Blend Universe	Peer Group	7.93%	-18.16%	7.09%	8.52%	11.57%	
S&P 500 Index	Benchmark	7.56%	-18.11%	7.66%	9.42%	12.56%	
LARGE COMPANY GROWTH							
Fidelity Contrafund K	Fidelity	3.88%	-28.22%	5.82%	8.60%	12.50%	0.74
T Rowe Price Instl Large Cap Gr I	TIAA/Fidelity	-0.18%	-35.18%	3.67%	8.35%	13.85%	0.55
Large Growth Universe	Peer Group	2.99%	-30.87%	4.96%	8.36%	11.90%	
Russell 1000 Growth	Benchmark	2.20%	-29.14%	7.79%	10.96%	14.10%	
MEDIUM COMPANY VALUE							
MFS Mid Cap Value R4	Fidelity	12.04%	-8.74%	7.56%	7.61%	10.80%	0.77
MFS Mid Cap Value R6	TIAA	12.06%	-8.64%	7.71%	7.75%	10.94%	0.62
Mid Value Universe	Peer Group	11.94%	-8.17%	6.46%	5.83%	9.49%	
Russell MidCap Value	Benchmark	10.45%	-12.03%	5.82%	5.72%	10.11%	

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*403(b) Plan only

**457(b) Plan only

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MEDIUM COMPANY BLEND							
Vanguard Institutional Extended Market Index Trust	TIAA/Fidelity	-	-	-	-	-	0.04
Mid Blend Universe	Peer Group	9.25%	-15.19%	6.08%	6.19%	9.91%	
Russell MidCap	Benchmark	9.18%	-17.32%	5.88%	7.10%	10.96%	
MEDIUM COMPANY GROWTH							
MassMutual Mid Cap Growth I	TIAA/Fidelity	7.78%	-24.07%	3.30%	7.15%	11.80%	0.65
Mid Growth Universe	Peer Group	5.32%	-28.34%	3.85%	7.27%	10.62%	
Russell MidCap Growth	Benchmark	6.90%	-26.72%	3.85%	7.64%	11.41%	
FOREIGN LARGE BLEND							
Amer Funds EuroPac Growth R6	TIAA	13.78%	-22.72%	-0.15%	1.54%	5.30%	0.46
Amer Funds EuroPac Growth R4	Fidelity	13.69%	-23.00%	-0.50%	1.18%	4.94%	0.81
Vanguard Instl Total International Stock Market Idx Trust	TIAA/Fidelity	-	-	-	-	-	0.07
MFS International Intrinsic Value Equity CIT Class 4	Fidelity	12.52%	-23.52%	0.88%	3.35%	8.10%	0.57
MFS International Intrinsic Value R6	TIAA	12.34%	-23.00%	0.92%	3.36%	8.07%	0.61
Foreign Large Blend Universe	Peer Group	16.86%	-15.92%	0.60%	1.18%	4.23%	
MSCI EAFE	Benchmark	17.40%	-14.01%	1.34%	2.03%	5.16%	
FOREIGN SMALL/MID GROWTH							
T Rowe Price International Discovery	Fidelity	12.19%	-30.34%	1.25%	1.31%	7.38%	1.18
T Rowe Price International Discovery I	TIAA	12.23%	-30.23%	1.39%	1.45%	7.48%	1.05
Foreign Small/Mid Growth Universe	Peer Group	14.25%	-28.93%	-1.56%	0.26%	5.48%	
MSCI World ex USA Smid Cap USD	Benchmark	15.22%	-19.84%	-0.52%	0.49%	5.53%	
SMALL COMPANY VALUE							
Goldman Sachs Small Value Inst	Fidelity	9.63%	-14.75%	3.30%	3.14%	8.70%	0.96
Goldman Sachs Small Value R6	TIAA	9.62%	-14.74%	3.30%	3.15%	8.60%	0.96
Small Value Universe	Peer Group	11.31%	-11.46%	6.61%	4.70%	8.74%	
Russell 2000 Value	Benchmark	8.42%	-14.48%	4.70%	4.13%	8.48%	
SMALL COMPANY GROWTH							
T Rowe Price QM US Small-Cap Gr Eq I	TIAA/Fidelity	7.35%	-22.31%	2.40%	5.89%	11.04%	0.64
Small Growth Universe	Peer Group	4.40%	-28.23%	3.06%	6.38%	10.11%	
Russell 2000 Growth	Benchmark	4.13%	-26.36%	0.65%	3.51%	9.20%	
SPECIALTY-REAL ESTATE							
Cohen & Steers Realty Shares L	Fidelity	3.72%	-24.96%	1.29%	5.76%	7.75%	0.88
Cohen & Steers Instl Realty Shares	TIAA	3.73%	-24.73%	1.47%	5.94%	7.97%	0.75
Specialty-Real Estate Universe	Peer Group	3.87%	-26.33%	-0.04%	3.72%	6.24%	
Dow Jones US Select REIT	Benchmark	4.76%	-25.96%	-1.37%	2.50%	5.74%	
SPECIALTY-REAL ESTATE							
TIAA Real Estate Account	TIAA	-3.49%	8.19%	8.14%	6.93%	7.41%	0.77
Specialty-Real Estate Universe	Peer Group	-4.97%	7.46%	9.93%	8.68%	10.09%	
NCREIF Property Index	Benchmark	-3.50%	5.53%	8.06%	7.46%	8.82%	
TARGET DATE							
Vanguard Target Retire Inc Tr Select	TIAA/Fidelity	3.82%	-12.70%	0.41%	2.37%	3.70%	0.05
Retirement Income Moderate	Peer Group	4.11%	-13.29%	0.03%	1.89%	3.37%	
Morningstar Lifetime Moderate Income Index	Benchmark	5.09%	-12.24%	1.44%	2.95%	3.82%	
Vanguard Target Retire 2020 Tr Select	TIAA/Fidelity	5.00%	-14.12%	1.40%	3.31%	5.93%	0.05
2020 Moderate	Peer Group	5.55%	-14.22%	1.03%	2.93%	5.19%	
Morningstar Lifetime Moderate 2020 Index	Benchmark	6.31%	-16.77%	0.92%	3.01%	5.15%	
Vanguard Target Retire 2025 Tr Select	TIAA/Fidelity	6.06%	-15.43%	1.79%	3.71%	6.55%	0.05
2025 Moderate	Peer Group	5.64%	-15.37%	1.24%	3.17%	5.61%	
Morningstar Lifetime Conservative 2025 Index	Benchmark	6.92%	-17.58%	1.02%	3.20%	5.78%	
Vanguard Target Retire 2030 Tr Select	TIAA/Fidelity	6.82%	-16.14%	2.22%	4.06%	7.10%	0.05
2030 Moderate	Peer Group	6.49%	-16.35%	1.89%	3.65%	6.33%	
Morningstar Lifetime Conservative 2030 Index	Benchmark	7.68%	-17.94%	1.37%	3.53%	6.50%	

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Vanguard Target Retire 2035 Tr Select 2035 Moderate	TIAA/Fidelity Peer Group	7.52% 7.48%	-16.51% -17.07%	2.77% 2.55%	4.47% 4.09%	7.69% 6.95%	0.05
Morningstar Lifetime Conservative 2035 Index	Benchmark	8.60%	-17.75%	1.94%	3.96%	7.14%	
Vanguard Target Retire 2040 Tr Select 2040 Moderate	TIAA/Fidelity Peer Group	8.21% 8.41%	-16.92% -17.83%	3.28% 3.09%	4.85% 4.51%	8.17% 7.43%	0.05
Morningstar Lifetime Moderate 2040 Index	Benchmark	9.50%	-17.37%	2.53%	4.36%	7.55%	
Vanguard Target Retire 2045 Tr Select 2045 Moderate	TIAA/Fidelity Peer Group	8.89% 8.92%	-17.32% -18.20%	3.82% 3.41%	5.23% 4.77%	8.44% 7.71%	0.05
Morningstar Lifetime Moderate 2045 Index	Benchmark	10.16%	-17.06%	2.91%	4.58%	7.70%	
Vanguard Target Retire 2050 Tr Select 2050 Moderate	TIAA/Fidelity Peer Group	9.24% 9.15%	-17.44% -18.42%	3.90% 3.49%	5.28% 4.83%	8.47% 7.78%	0.05
Morningstar Lifetime Moderate 2050 Index	Benchmark	10.49%	-16.91%	3.04%	4.62%	7.68%	
Vanguard Target Retire 2055 Tr Select 2055 Moderate	TIAA/Fidelity Peer Group	9.27% 9.22%	-17.41% -18.51%	3.90% 3.50%	5.28% 4.82%	8.44% 7.85%	0.05
Morningstar Lifetime Moderate 2055 Index	Benchmark	10.59%	-16.93%	3.00%	4.55%	7.59%	
Vanguard Target Retire 2060 Tr Select	TIAA/Fidelity	9.28%	-17.39%	3.93%	5.31%	8.46%	0.05
Vanguard Target Retire 2065 Tr Select	TIAA/Fidelity	9.30%	-17.35%	3.92%	5.33%	-	0.05
Vanguard Target Retire 2070 Tr Select 2060+ Moderate	TIAA/Fidelity Peer Group	9.30% 9.26%	- -18.47%	- 3.50%	- 4.90%	- 8.34%	
Morningstar Lifetime Moderate 2060 Index	Benchmark	10.65%	-16.98%	2.92%	4.46%	7.49%	

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