



CARNEGIE MELLON UNIVERSITY 401 (K) PLAN

Investment Performance as of 12/31/2020

The performance data quoted represents past performance, and is no guarantee of future results. Your returns and the principal value of your investment will fluctuate so that your mutual fund shares, when redeemed, may be worth more or less than their original cost. Current performance may be lower or higher than the performance quoted. For performance current to the most recent month-end, call 800-842-2252 or visit TIAA.org/planinvestmentoptions and enter your plan ID. Performance may reflect waivers or reimbursements of certain expenses. Absent these waivers or reimbursement arrangements, performance results would have been lower. Since inception performance shown is cumulative for periods less than one year.

Target Retirement Date Funds

Multi Asset - Mutual Fund	Morningstar Category	Inception Date	Total Returns		Average Annual Total Returns				Total Annual Operating Expenses (%/Per \$1000)		Fee Waiver Expiration	Shareholder Fees & Restrictions*
			3 Month	YTD	1 Year	3 Year	5 Year	10 Year/ Since Inception	Gross	Net		
Vanguard Institutional Target Retirement 2015 Fund Institutional Shares (VITVX) ^{1,2}	Target-Date 2015	06/26/15	5.82%	10.42%	10.42%	7.19%	7.85%	6.58%	0.09%	0.09%		Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: Bloomberg Barclays US Aggregate Bond TR USD			0.67%	7.51%	7.51%	5.34%	4.44%	4.25%				
Vanguard Institutional Target Retirement 2020 Fund Institutional Shares (VITWX) ^{1,2}	Target-Date 2020	06/26/15	7.88%	12.09%	12.09%	8.11%	9.07%	7.54%	0.09%	0.09%		Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: MSCI US Broad Market GR USD			14.79%	21.02%	21.02%	14.53%	15.46%	13.24%				
Vanguard Institutional Target Retirement 2025 Fund Institutional Shares (VRIVX) ^{1,2}	Target-Date 2025	06/26/15	9.36%	13.34%	13.34%	8.81%	9.94%	8.20%	0.09%	0.09%		Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: MSCI US Broad Market GR USD			14.79%	21.02%	21.02%	14.53%	15.46%	13.24%				

Investment products, insurance and annuity products: are not FDIC insured, are not bank guaranteed, are not deposits, are not insured by any federal government agency, are not a condition to any banking service or activity, and may lose value.

Multi Asset - Mutual Fund	Morningstar Category	Inception Date	Total Returns		Average Annual Total Returns				Total Annual Operating Expenses (%/Per \$1000)		Fee Waiver Expiration	Shareholder Fees & Restrictions*
			3 Month	YTD	1 Year	3 Year	5 Year	10 Year/ Since Inception	Gross	Net		
Vanguard Institutional Target Retirement 2030 Fund Institutional Shares (VTTWX) ^{1,2}	Target-Date 2030	06/26/15	10.54%	14.10%	14.10%	9.19%	10.57%	8.62%	0.09%	0.09%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: MSCI US Broad Market GR USD			14.79%	21.02%	21.02%	14.53%	15.46%	13.24%				
Vanguard Institutional Target Retirement 2035 Fund Institutional Shares (VITFX) ^{1,2}	Target-Date 2035	06/26/15	11.64%	14.80%	14.80%	9.55%	11.16%	9.03%	0.09%	0.09%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: MSCI US Broad Market GR USD			14.79%	21.02%	21.02%	14.53%	15.46%	13.24%				
Vanguard Institutional Target Retirement 2040 Fund Institutional Shares (VIRSX) ^{1,2}	Target-Date 2040	06/26/15	12.78%	15.44%	15.44%	9.86%	11.74%	9.40%	0.09%	0.09%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: MSCI US Broad Market GR USD			14.79%	21.02%	21.02%	14.53%	15.46%	13.24%				
Vanguard Institutional Target Retirement 2045 Fund Institutional Shares (VITLX) ^{1,2}	Target-Date 2045	06/26/15	13.91%	16.17%	16.17%	10.21%	12.12%	9.74%	0.09%	0.09%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: MSCI US Broad Market GR USD			14.79%	21.02%	21.02%	14.53%	15.46%	13.24%				
Vanguard Institutional Target Retirement 2050 Fund Institutional Shares (VTRLX) ^{1,2}	Target-Date 2050	06/26/15	14.03%	16.33%	16.33%	10.26%	12.14%	9.76%	0.09%	0.09%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: MSCI US Broad Market GR USD			14.79%	21.02%	21.02%	14.53%	15.46%	13.24%				
Vanguard Institutional Target Retirement 2055 Fund Institutional Shares (VIVLX) ^{1,2}	Target-Date 2055	06/26/15	14.02%	16.36%	16.36%	10.28%	12.16%	9.77%	0.09%	0.09%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: MSCI US Broad Market GR USD			14.79%	21.02%	21.02%	14.53%	15.46%	13.24%				
Vanguard Institutional Target Retirement 2060 Fund Institutional Shares (VILVX) ^{1,2}	Target-Date 2060+	06/26/15	14.02%	16.40%	16.40%	10.30%	12.16%	9.77%	0.09%	0.09%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: MSCI US Broad Market GR USD			14.79%	21.02%	21.02%	14.53%	15.46%	13.24%				
Vanguard Institutional Target Retirement 2065 Fund Institutional Shares (VSXFX) ^{1,2}	Target-Date 2060+	07/12/17	14.01%	16.18%	16.18%	10.25%	-	11.66%	0.09%	0.09%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: MSCI US Broad Market GR USD			14.79%	21.02%	21.02%	14.53%	-	15.64%				
Vanguard Institutional Target Retirement Income Fund Institutional Shares (VITRX) ^{1,2}	Target-Date Retirement	06/26/15	5.19%	10.18%	10.18%	6.93%	6.92%	6.01%	0.09%	0.09%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: Bloomberg Barclays US Aggregate Bond TR USD			0.67%	7.51%	7.51%	5.34%	4.44%	4.25%				

Core Mutual Funds

Equities - Mutual Fund	Morningstar Category	Inception Date	Total Returns		Average Annual Total Returns				Total Annual Operating Expenses (%/Per \$1000)		Fee Waiver Expiration	Shareholder Fees & Restrictions*
			3 Month	YTD	1 Year	3 Year	5 Year	10 Year/ Since Inception	Gross	Net		
Vanguard Emerging Markets Stock Index Fund Institutional Shares (VEMIX) ^{1,3,4}	Diversified Emerging Mkts	06/22/00	16.87%	15.26%	15.26%	5.84%	11.74%	3.16%	0.10%	0.10%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: MSCI EM NR USD			19.70%	18.31%	18.31%	6.17%	12.81%	3.63%				
Vanguard Institutional Index Fund Institutional Plus Shares (VIGIX) ¹	Large Blend	07/07/97	12.15%	18.41%	18.41%	14.17%	15.21%	13.88%	0.02%	0.02%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: S&P 500 TR USD			12.15%	18.40%	18.40%	14.18%	15.22%	13.88%				
Vanguard Mid-Cap Index Fund Institutional Shares (VMCIX) ^{1,5}	Mid-Cap Blend	05/21/98	18.02%	18.26%	18.26%	12.04%	13.29%	12.41%	0.04%	0.04%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: CRSP US Mid Cap TR USD			18.03%	18.24%	18.24%	12.06%	13.30%	12.52%				
Vanguard Real Estate Index Fund Institutional Shares (VGSNX) ^{1,4,6}	Real Estate	12/02/03	9.24%	-4.67%	-4.67%	4.98%	5.67%	8.71%	0.10%	0.10%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: S&P United States REIT TR USD			11.51%	-7.52%	-7.52%	3.45%	4.62%	8.17%				
Vanguard Small-Cap Index Fund Institutional Shares (VSCIX) ^{1,5}	Small Blend	07/07/97	27.10%	19.12%	19.12%	11.23%	13.61%	12.02%	0.04%	0.04%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: CRSP US Small Cap TR USD			27.10%	19.07%	19.07%	11.20%	13.58%	12.18%				
Vanguard Total International Stock Index Fund Institutional Shares (VTSNX) ^{1,4,7}	Foreign Large Blend	11/29/10	16.89%	11.28%	11.28%	5.01%	9.11%	5.15%	0.08%	0.08%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: MSCI ACWI Ex USA NR USD			17.01%	10.65%	10.65%	4.88%	8.93%	4.92%				

Fixed Income - Mutual Fund	Morningstar Category	Inception Date	Total Returns		Average Annual Total Returns				Total Annual Operating Expenses (%/Per \$1000)		Fee Waiver Expiration	Shareholder Fees & Restrictions*
			3 Month	YTD	1 Year	3 Year	5 Year	10 Year/ Since Inception	Gross	Net		
Vanguard Inflation-Protected Securities Fund Institutional Shares (VIPIX) ¹	Inflation-Protected Bond	12/12/03	1.70%	11.05%	11.05%	5.81%	5.00%	3.73%	0.07%	0.07%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: Bloomberg Barclays US Treasury US TIPS TR USD			1.62%	10.99%	10.99%	5.92%	5.08%	3.81%				

Fixed Income - Mutual Fund	Morningstar Category	Inception Date	Total Returns		Average Annual Total Returns				Total Annual Operating Expenses (%/Per \$1000)		Fee Waiver Expiration	Shareholder Fees & Restrictions*
			3 Month	YTD	1 Year	3 Year	5 Year	10 Year/ Since Inception	Gross	Net		
Vanguard Total Bond Market Index Fund Institutional Shares (VBTIX) ¹	Intermediate Core Bond	09/18/95	0.67%	7.74%	7.74%	5.41%	4.47%	3.81%	0.04%	0.04%	-	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Benchmark: Bloomberg Barclays US Aggregate Float Adjusted TR USD			0.71%	7.75%	7.75%	5.44%	4.53%	3.89%				

Money Market - Mutual Fund	Morningstar Category	Inception Date	7-Day Yield**	Total Returns		Average Annual Total Returns				Total Annual Operating Expenses (%/Per \$1000)		Fee Waiver Expiration	Shareholder Fees & Restrictions*
				3 Month	YTD	1 Year	3 Year	5 Year	10 Year/ Since Inception	Gross	Net		
Vanguard Federal Money Market Fund Investor Shares (VMFXX) ^{1,8}	Money Market-Taxable	07/13/81	0.02%	0.01%	0.45%	0.45%	1.46%	1.10%	0.55%	0.11%	0.11%	-	-
Benchmark: FTSE Treasury Bill 3 Month USD				0.02%	0.58%	0.58%	1.56%	1.16%	0.60%				

You could lose money by investing in a money market fund. Although a money market fund seeks to preserve the value of your investment at \$1.00 per share, it cannot guarantee it will do so. An investment in a money market fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. A money market fund's sponsor has no legal obligation to provide support to a money market fund, and you should not expect that the sponsor will provide financial support to a money market fund at any time.

**The current yield more closely reflects the earnings of this investment choice.

A Note About Risk

Equity risk refers to the risk of loss due to the market price of shares falling. Equity funds generally carry a higher degree of risk than fixed income funds.

Fixed income funds are not guaranteed and are subject to interest rate, inflation and credit risks. More detailed information on risks applicable to a particular investment option can be found in the prospectus or other product literature.

Fees and Expenses

*Some Plans may allocate plan costs to participants to offset the cost of recordkeeping and other plan services. When the Plan allocates these costs at the investment-level there may be a plan services fee or credit displayed in the "Shareholder fees & restrictions" column. If the costs are allocated at the plan-level (regardless of investment) it is not displayed on the Quarterly Investment Update.

Fee and expense information for the variable return investment options include the Total Annual Operating Expenses expressed as a percentage and a dollar amount based upon a \$1,000 accumulation both as net (after) and gross (before) of expenses. Total Annual Operating Expenses is a measure of what it costs to operate an investment, expressed as a percentage of its assets, as a dollar amount or in basis points. These are costs the investor pays through a reduction in the investment's rate of return. Expense information shown is based on the most recent information available, but may not reflect all updates and may differ slightly from the prospectus due to rounding. Please consult the most recent prospectus or offering document for more detailed information.

For more information on the impact of fees and expenses associated with your plan, please visit TIAA.org/fees. Fees are only one of many factors to consider when making an investment decision.

About the Benchmark

A benchmark provides an investor with a point of reference to evaluate an investment's performance. One common type of benchmark used to compare investment performance is called an index. Indexes are unmanaged portfolios of securities designed to track the performance of a particular segment of the market. For example, a large cap stock fund or account will usually be compared to an index that tracks a portfolio of large-cap stocks. Conversely, a bond fund or account is typically compared to an index that tracks a portfolio of bonds that is comparable to the fund or account's portfolio in terms of credit quality, maturity and liquidity. Each mutual fund or account shown in the table includes performance information for an index that the advisor determined provides a fair comparison of the fund or account's investment performance. Indexes are for comparison purposes only. You cannot invest directly in any index. Index returns do not reflect a deduction for fees or expenses.

Data Providers

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The Morningstar Category classifies a fund based on its investment style as measured by underlying portfolio holdings (portfolio statistics and compositions over the past three years). If the fund is new and has no portfolio, Morningstar estimates where it will fall before assigning a more permanent category. When necessary, Morningstar may change a category assignment based on current information.

Important Information

1 Accumulations in funds not managed by TIAA may be subject to administrative charges. These charges are subject to change. Please review current documents related to your plan.

2 As Target Retirement Date Funds are actively managed, their asset allocations are subject to change and may vary from those indicated. They invest in many underlying funds and are exposed to the risks of different areas of the market. Please note that, as with all mutual funds, the principal value of a Target Retirement Date Fund is not guaranteed. The higher a fund's allocation to stocks, the greater the risk. After the target date has been reached, some of these funds may be merged into a fund with a more stable asset allocation. In addition to the fund level expenses these funds are also subject to the expenses of their underlying investments. Please consult the prospectus for more complete information.

3 Securities issued in developing markets, where there is greater potential for political, currency and economic volatility, may be less liquid than those issued in more developed countries and foreign investors in these markets may be subject to special restrictions which could have an adverse impact on performance.

4 The index shown is for comparative purposes only, and may not match other websites or publications.

5 Securities of smaller companies may be more volatile than those of larger ones, and they are also often less liquid than those of larger companies because there is a limited market for them.

6 Funds that focus their investments in real estate are subject to the risks associated with real estate ownership, including fluctuations in property values, higher expenses or lower income than expected, and potential environmental problems and liability.

7 Securities of foreign issuers may lose value because of erratic market conditions, economic and political instability or fluctuations in currency exchange rates, which may be magnified in emerging markets.

8 Closed to new investors.



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CREATED TO SERVE.

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Mutual funds are offered through your plan sponsor's retirement plan, which is recordkept by TIAA. Funds are offered at that day's net asset value (NAV), and the performance is displayed accordingly. Performance at NAV does not reflect sales charges, which are waived through your retirement plan. If included, the sales charges would have reduced the performance as quoted.

Before making your investment choices and completing your enrollment form, you should consider the investment objectives, risks, charges and expenses carefully. Please call 877-518-9161 for paper copies of the fund prospectuses that contain this and other information. Please read the prospectuses carefully before investing.

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