

June 10, 2023

Re: Important information about your retirement plan

The enclosed information is being provided to help you make informed decisions when managing your account and planning your financials goals for retirement.

While no action is required at this time, please review the notice as it contains important information regarding the fees and expenses associated with your retirement plan and its investment options. To help facilitate your review, the notice is divided into two sections:

Section I: Summary of Plan Services and Costs which provides information about administrative fees, individual transaction expenses, and your right to direct how your contributions are invested

Section II: Investment Options Comparative Chart that provides information about your plan's available investment options including their respective performance and expenses

You can access the notice, as well as up-to-date investment performance, at TIAA.org. Simply log in to your TIAA account and follow these steps:

1. Go to "My Account"
2. Select "Research investments" under "Resources"
3. Select your plan name and your notice will appear under "Helpful Links"

Note: If you prefer to receive future notices electronically, update your eDelivery preferences under "Update Profile & Settings" under the "Manage my Portfolio" section.

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Fee Disclosure - (2/2023)

Plan and Investment Notice

THE UNIVERSITY OF PENNSYLVANIA MATCHING PLAN

June 10, 2023

Your participation in your employer's retirement plan is the first step to ensuring adequate retirement income. The purpose of this Plan and Investment Notice is to help you make informed decisions when managing your retirement account. It contains important information regarding your plan's services, investments and expenses. **While no action is required at this time**, please review the notice and file it with your other retirement plan documents for future reference.

Section I: Summary of Plan Services and Costs

This section provides important information to assist you in making decisions related to your participation in your employer's plan. It outlines the services available under this plan, explains your right to select the investments for your account, and any fees and plan restrictions that may apply.

Section II: Investment Options Comparative Chart

This section is designed to make it easier for you to compare investments that align with your retirement goals. It provides detailed information about your plan's investment options, including long-term performance and expenses.

Summary of Plan Services and Costs

TIAA has been selected to provide retirement services and investment options to employees in the plan. There are costs associated with these services and investments, some of which may be paid by you. In addition to explaining how to direct your investments, this section details the administrative and individual expenses associated with your plan.

RIGHT TO DIRECT INVESTMENTS

You may specify how your future contributions to the retirement plan are invested or make changes to existing investments in your plan as described in the Summary Plan Document. These changes can be made:

1. Online by visiting **TIAA.org**
2. By phone at **800 842-2252**, weekdays, 8 a.m. to 10 p.m. (ET)

RESTRICTIONS

Changes to existing investments usually take place at the close of the business day if a change is requested prior to 4:00 p.m. (ET). Refer to Section II: Investment Options Comparative Chart for investment-specific restrictions.

ADDITIONAL RIGHTS AND PRIVILEGES

Certain investments that you may hold may give you the opportunity to vote on proposals. If and when such opportunities arise, you will receive a notice with the instructions on how to take advantage of what is being offered.

INVESTMENT OPTIONS

A variety of investment options are available in the plan. Please refer to Section II: Investment Options Comparative Chart for a current list of investment options available to you. Additional information, as well as up-to-date investment performance, is available online at www.TIAA.org/planinvestmentoptions. After entering your plan ID, 100321, you'll be directed to plan and investment information.

COST OF PLAN SERVICES

There are three categories of services provided to your plan:

1. GENERAL ADMINISTRATIVE SERVICES

General administrative services include recordkeeping, legal, accounting, consulting, investment advisory and other plan administration services. Some of the expenses for general administrative services are fixed and other expenses such as legal or accounting may vary from year to year. These costs are allocated to each participant in a uniform way.

An annual TIAA Plan Servicing Fee of \$30.00 is assessed if you maintain a Retirement Choice and/or Retirement Choice Plus account. The fee is deducted proportionally from each investment in your account quarterly and identified as "TIAA Plan Servicing Fee" on

your statements.

In some cases, other investment providers may pay a portion of an investment's expense ratio to TIAA, your plan's recordkeeper, to help offset the cost of plan administration. This practice is called "revenue sharing." If you have investments that revenue share, you'll receive a credit in the amount of the investment's revenue share based on your average daily balance. This will be identified as "TIAA Plan Servicing Credit" on your statements.

If you do not maintain a Retirement Choice and/or Retirement Choice Plus account and therefore no TIAA Plan Servicing Fee was assessed, your investment revenue share credit will be reduced by the amount of the fee in order to cover plan administrative services expenses. Please refer to Section II: Investment Options Comparative Chart of the Plan and Investment Notice for investment credit details.

2. SPECIFIC INVESTMENT SERVICES

Each investment offered within the plan charges a fee for managing the investment and for associated services. This is referred to as the expense ratio and is paid by all participants in that investment in proportion to the amount of their investment. The specific expense ratio for each plan designated investment option is listed in Section II: Investment Options Comparative Chart.

3. PERSONALIZED SERVICES

Personalized services provide access to a number of plan features and investments that you pay for, only if you use them. The personalized services used most often are:

Brokerage	Certain charges may apply. Please review the Customer Account Agreement provided in the Self-Directed Brokerage section of this document. Your plan may limit the eligible investments within the self-directed brokerage account. This applies to plan(s): 100321
Qualified Domestic Relations Orders (QDRO)	No charge
Sales Charges, Purchase, Withdrawal And Redemption Fees For Certain Investments	Certain charges may apply. See Section II: Investment Options Comparative Chart or the prospectus for applicable charges.

Investment Options Comparative Chart

Your plan offers a variety of professionally managed investments. One of the benefits of the plan is that you get to decide how your contributions are invested. When making investment decisions, you should keep in mind how long you have until retirement, your tolerance for risk, how this retirement plan fits into your overall financial picture, and the impact of fees. The information on the following pages will help you compare the investment options and make more informed decisions about your retirement plan.

Part A – Performance and Fee Information

Part A consists of performance and fee information for your plan's investment options. It shows you how well the investments have performed in the past as well as any fees and expenses you will pay if you invest in a particular option.

For more information on the impact of fees and expenses associated with your plan, refer to Section I: Summary of Plan Services and Costs or visit the DOL's website at www.dol.gov/sites/default/files/ebsa/about-ebsa/our-activities/resource-center/publications/a-look-at-401k-plan-fees.pdf. Fees are only one of many factors to consider when making an investment decision.

Part B – Annuity Income Information

Part B contains information about the annuity options available within your employer's retirement plan.

Part A. Performance and Fee Information

The following chart lists your plan's investment options whose value may change based on market fluctuations. When evaluating performance of your variable investment options, you should consider comparing the returns of each investment to an appropriate benchmark, which is included in the chart. A benchmark is a generally accepted unmanaged group of securities whose performance is used as a standard point of reference to measure and compare investment gains or losses for variable return investments. Keep in mind that you may not invest in the benchmark indexes which are shown for comparative purposes only. For investments that use a blend of stocks and bonds to limit risk, such as Target Date or Multi-Asset funds, a difference from the benchmark may be due to a difference in the proportion of stocks to bonds in the fund when compared to the benchmark. Benchmark information for fixed-return investments is not provided in this chart. Past performance does not indicate how an investment will perform in the future.

For the most up-to-date information about your investment options, prospectuses for available TIAA investments and other helpful resources, visit www.TIAA.org/planinvestmentoptions. After entering your plan ID, 100321, you'll be directed to plan and investment information.

Visit www.tiaa.org for information and resources to help you make informed decisions. To request additional plan information or a paper copy of information available online, free of charge, contact TIAA at 8008422252 or write to us at TIAA, P.O. Box 1259 Charlotte NC 28201.

Table 1 – Variable Return Investment Performance as of March 31, 2023

Investment Name / Benchmark	Morningstar Category	Ticker Symbol	Inception Date	Average Annual Total Returns/Benchmark			Total Annual Operating Expenses (%/Per \$1000)		Shareholder Fees & Restrictions
				1 Yr.	5 Yr.	10 Yr. or Since Inception	Gross	Net	
Equities									
Mutual Fund									
Vanguard Emerging Markets Stock Index Fund Institutional	Diversified Emerging Mkts	VEMIX	06/22/2000	-9.10%	-0.02%	2.22%	0.10% \$1.00	0.10% \$1.00	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
MSCI EM NR USD				-10.70%	-0.91%	2.00%			
Vanguard Developed Markets Index Fund Institutional Plus	Foreign Large Blend	VDIPX	04/01/2014	-2.90%	3.45%	3.93%	0.04% \$0.40	0.04% \$0.40	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
MSCI ACWI Ex USA NR USD				-5.07%	2.47%	3.25%			
Vanguard Total International Stock Index Fund Institutional	Foreign Large Blend	VTSNX	11/29/2010	-4.60%	2.53%	4.46%	0.08% \$0.80	0.08% \$0.80	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
MSCI ACWI Ex USA NR USD				-5.07%	2.47%	4.17%			
Vanguard Institutional Index Fund Institutional Plus	Large Blend	VIIIIX	07/07/1997	-7.75%	11.18%	12.23%	0.02% \$0.20	0.02% \$0.20	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
S&P 500 TR USD				-7.73%	11.19%	12.24%			
Vanguard Growth Index Fund Institutional	Large Growth	VIGIX	05/14/1998	-12.61%	12.90%	13.60%	0.04% \$0.40	0.04% \$0.40	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
CRSP US Large Cap Growth TR USD				-12.59%	12.93%	13.65%			
Vanguard Value Index Fund Institutional	Large Value	VIVIX	07/02/1998	-3.98%	8.86%	10.52%	0.04% \$0.40	0.04% \$0.40	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
CRSP US Large Cap Value TR USD				-3.95%	8.87%	10.56%			

Investment Name / Benchmark	Morningstar Category	Ticker Symbol	Inception Date	Average Annual Total Returns/Benchmark			Total Annual Operating Expenses (%/Per \$1000)		Shareholder Fees & Restrictions
				1 Yr.	5 Yr.	10 Yr. or Since Inception	Gross	Net	
Vanguard Mid-Cap Index Fund Institutional Plus	Mid-Cap Blend	VMCPX	12/15/2010	-9.84%	8.15%	10.20%	0.03% \$0.30	0.03% \$0.30	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
CRSP US Mid Cap TR USD				-9.85%	8.15%	10.21%			
Vanguard REIT Index Fund Institutional	Real Estate	VGSNX	12/02/2003	-20.10%	5.84%	5.81%	0.10% \$1.00	0.10% \$1.00	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
S&P United States REIT TR USD				-19.08%	6.03%	5.83%			
Vanguard Small Cap Index Fund Institutional Plus	Small Blend	VSCPX	12/17/2010	-9.31%	6.78%	9.21%	0.03% \$0.30	0.03% \$0.30	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
CRSP US Small Cap TR USD				-9.39%	6.74%	9.17%			
Variable Annuity									
CREF Stock Account R3	Allocation--85%+ Equity	QCSTIX	04/24/2015	-7.07%	7.18%	8.98%	0.23% \$2.30	0.23% \$2.30	An annual plan servicing credit of up to 00.10% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services.
Morningstar Aggressive Target Risk TR USD				-6.86%	6.50%	8.11%			Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days.
CREF Global Equities Account R3	Global Large- Stock Blend	QCGLIX	04/24/2015	-6.32%	7.12%	8.49%	0.22% \$2.20	0.22% \$2.20	An annual plan servicing credit of up to 00.10% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services.
MSCI ACWI NR USD				-7.44%	6.93%	8.06%			Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days.
CREF Equity Index Account R3	Large Blend	QCEQIX	04/24/2015	-8.66%	10.29%	11.50%	0.16% \$1.60	0.16% \$1.60	An annual plan servicing credit of up to 00.10% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services.
Russell 3000 TR USD				-8.58%	10.45%	11.73%			Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days.
CREF Growth Account R3	Large Growth	QCGRIX	04/24/2015	-11.94%	10.67%	13.19%	0.21% \$2.10	0.21% \$2.10	An annual plan servicing credit of up to 00.10% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services.
Russell 1000 Growth TR USD				-10.90%	13.66%	14.59%			Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days.

Investment Name / Benchmark	Morningstar Category	Ticker Symbol	Inception Date	Average Annual Total Returns/Benchmark			Total Annual Operating Expenses (%/Per \$1000)		
				1 Yr.	5 Yr.	10 Yr. or Since Inception	Gross	Net	Shareholder Fees & Restrictions
Fixed Income									
Mutual Fund									
Vanguard Inflation-Protected Securities Fund Institutional	Inflation-Protected Bond	VIPIX	12/12/2003	-6.20%	2.88%	1.41%	0.07% \$0.70	0.07% \$0.70	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Bloomberg US Treasury US TIPS TR USD				-6.06%	2.94%	1.49%			
BlackRock Total Return Fund K	Intermediate Core-Plus Bond	MPHQX	12/07/2001	-4.68%	1.31%	2.05%	0.38% \$3.80	0.38% \$3.80	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Bloomberg US Aggregate Bond TR USD				-4.78%	0.91%	1.36%			
Vanguard Intermediate-Term Treasury Fund Admiral	Intermediate Government	VFIUX	02/12/2001	-3.04%	1.25%	1.06%	0.10% \$1.00	0.10% \$1.00	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Bloomberg US Government TR USD				-4.42%	0.76%	0.92%			
Vanguard Total Bond Market Index Fund Institutional Plus	Intermediate-Term Bond	VBMPX	02/05/2010	-4.69%	0.94%	1.35%	0.03% \$0.30	0.03% \$0.30	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
Bloomberg US Aggregate Float Adjusted TR USD				-4.72%	0.95%	1.39%			
Variable Annuity									
CREF Inflation-Linked Bond Account R3	Inflation-Protected Bond	QCILIX	04/24/2015	-2.39%	3.14%	1.37%	0.17% \$1.70	0.17% \$1.70	An annual plan servicing credit of up to 00.10% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services.
Bloomberg US Treasury Inflation Notes 1-10 Yr TR USD				-2.92%	3.18%	1.55%			Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days.
CREF Core Bond Account R3	Intermediate-Term Bond	QCBMIX	04/24/2015	-4.75%	1.08%	1.55%	0.22% \$2.20	0.22% \$2.20	An annual plan servicing credit of up to 00.10% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services.
Bloomberg US Aggregate Bond TR USD				-4.78%	0.91%	1.36%			Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days.
Money Market									
Mutual Fund									

Investment Name / Benchmark	Morningstar Category	Ticker Symbol	Inception Date	Average Annual Total Returns/Benchmark			Total Annual Operating Expenses (%/Per \$1000)		
				1 Yr.	5 Yr.	10 Yr. or Since Inception	Gross	Net	Shareholder Fees & Restrictions
Vanguard Federal Money Market Fund Investor 7-day current annualized yield 4.77% as of 03/31/2023 7-day effective annualized yield 4.77% as of 03/31/2023	Money Market- Taxable	VMFXX	07/13/1981	2.66%	1.34%	0.82%	0.11%	0.11%	
							\$1.10	\$1.10	
FTSE Treasury Bill 3 Month USD				2.61%	1.40%	0.85%			
Variable Annuity									
CREF Money Market Account R3 7-day current annualized yield 4.61% as of 03/28/2023 7-day effective annualized yield 4.71% as of 03/28/2023	Money Market- Taxable	QCMMIX	04/24/2015	2.36%	1.19%	0.68%	0.18%	0.18%	An annual plan servicing credit of up to 00.10% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services.
							\$1.80	\$1.80	
iMoneyNet Money Fund Averages - All Government				2.35%	1.12%	0.64%			
Multi-Asset									
Mutual Fund									
Vanguard Target Retirement Income Fund	Retirement Income	VTINX	10/27/2003	-4.50%	3.26%	3.79%	0.08%	0.08%	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
				-5.19%	3.75%	3.87%	\$0.80	\$0.80	
Morningstar Lifetime Allocation Moderate Income TR USD									
Vanguard Target Retirement 2020 Fund	Target-Date 2020	VTWNX	06/07/2006	-5.26%	4.30%	5.77%	0.08%	0.08%	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
				-7.95%	4.07%	5.09%	\$0.80	\$0.80	
Morningstar Lifetime Allocation Moderate 2020 TR USD									
Vanguard Target Retirement 2025 Fund	Target-Date 2025	VTTVX	10/27/2003	-5.91%	4.77%	6.35%	0.08%	0.08%	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
				-8.37%	4.31%	5.65%	\$0.80	\$0.80	
Morningstar Lifetime Allocation Moderate 2025 TR USD									
Vanguard Target Retirement 2030 Fund	Target-Date 2030	VTHRX	06/07/2006	-6.22%	5.21%	6.89%	0.08%	0.08%	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
							\$0.80	\$0.80	

Investment Name / Benchmark	Morningstar Category	Ticker Symbol	Inception Date	Average Annual Total Returns/Benchmark			Total Annual Operating Expenses (%/Per \$1000)		
				1 Yr.	5 Yr.	10 Yr. or Since Inception	Gross	Net	Shareholder Fees & Restrictions
<i>Morningstar Lifetime Allocation Moderate 2030 TR USD</i>				-8.49%	4.70%	6.30%			
Vanguard Target Retirement 2035 Fund	Target-Date 2035	VTTHX	10/27/2003	-6.36%	5.68%	7.43%	0.08% \$0.80	0.08% \$0.80	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
<i>Morningstar Lifetime Allocation Moderate 2035 TR USD</i>				-8.22%	5.18%	6.90%			
Vanguard Target Retirement 2040 Fund	Target-Date 2040	VFORX	06/07/2006	-6.53%	6.12%	7.91%	0.08% \$0.80	0.08% \$0.80	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
<i>Morningstar Lifetime Allocation Moderate 2040 TR USD</i>				-7.81%	5.62%	7.31%			
Vanguard Target Retirement 2045 Fund	Target-Date 2045	VTIVX	10/27/2003	-6.70%	6.59%	8.22%	0.08% \$0.80	0.08% \$0.80	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
<i>Morningstar Lifetime Allocation Moderate 2045 TR USD</i>				-7.50%	5.86%	7.48%			
Vanguard Target Retirement 2050 Fund	Target-Date 2050	VFIFX	06/07/2006	-6.71%	6.66%	8.26%	0.08% \$0.80	0.08% \$0.80	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
<i>Morningstar Lifetime Allocation Moderate 2050 TR USD</i>				-7.33%	5.92%	7.47%			
Vanguard Target Retirement 2055 Fund	Target-Date 2055	VFFVX	08/18/2010	-6.67%	6.66%	8.24%	0.08% \$0.80	0.08% \$0.80	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
<i>Morningstar Lifetime Allocation Moderate 2055 TR USD</i>				-7.33%	5.86%	7.40%			
Vanguard Target Retirement 2060 Fund	Target-Date 2060	VTTSX	01/19/2012	-6.67%	6.65%	8.24%	0.08% \$0.80	0.08% \$0.80	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
<i>Morningstar Lifetime Allocation Moderate 2060 TR USD</i>				-7.36%	5.77%	7.31%			

Investment Name / Benchmark	Morningstar Category	Ticker Symbol	Inception Date	Average Annual Total Returns/Benchmark			Total Annual Operating Expenses (%/Per \$1000)		
				1 Yr.	5 Yr.	10 Yr. or Since Inception	Gross	Net	Shareholder Fees & Restrictions
Vanguard Target Retirement 2065 Fund	Target-Date 2065+	VLXVX	07/12/2017	-6.64%	6.64%	7.34%	0.08% \$0.80	0.08% \$0.80	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
<i>Morningstar Lifetime Allocation Moderate 2060 TR USD</i>				-7.36%	5.77%	6.62%			
Vanguard Target Retirement 2070 Fund	Target-Date 2065+	VSVNX	06/28/2022	-	-	7.73%	0.08% \$0.80	0.08% \$0.80	Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund.
<i>Morningstar Lifetime Allocation Moderate 2060 TR USD</i>						7.40%			
Variable Annuity									
CREF Social Choice Account R3	Allocation--50% to 70% Equity	QCSCIX	04/24/2015	-5.23%	5.78%	6.46%	0.19% \$1.90	0.19% \$1.90	An annual plan servicing credit of up to 00.10% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services.
<i>Morningstar Moderate Target Risk TR USD</i>				-6.22%	4.80%	5.74%			Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days.
Real Estate									
Variable Annuity									
TIAA Real Estate Account	N/A	QREARX	10/02/1995	0.14%	6.21%	6.95%	0.77% \$7.70	0.77% \$7.70	An annual plan servicing credit of up to 00.24% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services.
<i>S&P 500 TR USD</i>				-7.73%	11.19%	12.24%			Transfers out: Limit 1 per quarter. Limitations may apply to any transaction resulting in a balance > \$150,000.

Table 1 shows fee and expense information for the investment options listed including the Total Annual Operating Expenses expressed as a percentage and a dollar amount based upon a \$1,000 accumulation both as net and gross 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.

Table 2 – Fixed Return Investments

The following chart lists the plan's investment options that have a fixed or stated rate of return.

Name/Type/Option	Return	Term	Additional Information
Guaranteed Annuity			
TIAA Traditional-Retirement Choice	6.50%	Through 02/29/2024	<p>An annual plan servicing credit of up to 00.15% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services.</p> <p>The current rate shown applies to premiums remitted during the month of May 2023 and will be credited through 2/29/2024. This rate is subject to change in subsequent months. Up-to-date rate of return information is available on your plan-specific website noted above or at 800-842-2733. TIAA Traditional guarantees your principal and a minimum annual interest rate. The current guaranteed minimum interest rate for premiums remitted in 2022 is 2.80%, and is effective through 2032. The account also offers the opportunity for additional amounts in excess of the minimum interest rate. When declared, additional amounts remain in effect for the twelve-month period that begins each March 1 for accumulating annuities and January 1 for payout annuities. Additional amounts are not guaranteed for the future years. All guarantees are subject to TIAA's claims paying ability. TIAA Traditional is designed primarily to help meet your long-term retirement income needs; it is not a short-term savings vehicle. Therefore, some contracts require that benefits are paid in installments over time and/or may impose surrender charges on certain withdrawals. TIAA has rewarded participants who save in contracts where benefits are paid in installments over time instead of in an immediate lump-sum by crediting higher interest rates, typically 0.50% to 0.75% higher. Higher rates will lead to higher account balances and more retirement income for you. For Retirement Choice (RC) contracts, and subject to the terms of your employer's plan, lump-sum withdrawals are available from the TIAA Traditional account only within 120 days after termination of employment and are subject to a 2.5% surrender charge. All other withdrawals and transfers from the account must be paid in 84 monthly installments (7 years). If the Contractholder elects to remove TIAA Traditional, the contract's entire TIAA Traditional accumulation will be paid out in 60 monthly installments without any surrender charge.</p>
TIAA Traditional-Retirement Annuity	6.25%	Through 02/29/2024	<p>An annual plan servicing credit of up to 00.15% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services.</p> <p>The current rate shown applies to premiums remitted during the month of May 2023 and will be credited through 2/29/2024. This rate is subject to change in subsequent months. Up-to-date rate of return information is available on your plan-specific website noted above or at 800-842-2733. TIAA Traditional guarantees your principal and a minimum annual interest rate. The guaranteed minimum interest rate is 3.00%, and is effective while the funds remain in the contract. The account also offers the opportunity for additional amounts in excess of the guaranteed minimum interest rate. When declared, additional amounts remain in effect for the twelve-month period that begins each March 1 for accumulating annuities and January 1 for payout annuities. Additional amounts are not guaranteed for the future years. All guarantees are subject to TIAA's claims paying ability. TIAA Traditional is designed primarily to help meet your long-term retirement income needs; it is not a short-term savings vehicle. Therefore, some contracts require that benefits are paid in installments over time and/or may impose surrender charges on certain withdrawals. TIAA has rewarded participants who save in contracts where benefits are paid in installments over time instead of in an immediate lump-sum by crediting higher interest rates, typically 0.50% to 0.75% higher. Higher rates will lead to higher account balances and more retirement income for you. For Retirement Annuity (RA) contracts, lump-sum withdrawals are not available from the TIAA Traditional account. Subject to the terms of your plan, all withdrawals and transfers from the account must be paid in ten annual installments. After termination of employment additional income options may be available including income for life, interest-only payments, and IRS required minimum distribution payments.</p>

Name/Type/Option	Return	Term	Additional Information
TIAA Traditional-Group Retirement Annuity	6.25%	Through 02/29/2024	<p>An annual plan servicing credit of up to 00.15% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services.</p> <p>The current rate shown applies to premiums remitted during the month of May 2023 and will be credited through 2/29/2024. This rate is subject to change in subsequent months. Up-to-date rate of return information is available on your plan-specific website noted above or at 800-842-2733. TIAA Traditional guarantees your principal and a minimum annual interest rate. The guaranteed minimum interest rate is 3.00%, and is effective while the funds remain in the contract. The account also offers the opportunity for additional amounts in excess of the guaranteed minimum interest rate. When declared, additional amounts remain in effect for the twelve-month period that begins each March 1 for accumulating annuities and January 1 for payout annuities. Additional amounts are not guaranteed for the future years. All guarantees are subject to TIAA's claims paying ability. TIAA Traditional is designed primarily to help meet your long-term retirement income needs; it is not a short-term savings vehicle. Therefore, some contracts require that benefits are paid in installments over time and/or may impose surrender charges on certain withdrawals. TIAA has rewarded participants who save in contracts where benefits are paid in installments over time instead of in an immediate lump-sum by crediting higher interest rates, typically 0.50% to 0.75% higher. Higher rates will lead to higher account balances and more retirement income for you. For Group Retirement Annuity (GRA) contracts, and subject to the terms of your employer's plan, lump-sum withdrawals are available from the TIAA Traditional account only within 120 days after termination of employment and are subject to a 2.5% surrender charge. All other withdrawals and transfers from the account must be paid in ten annual installments. After termination of employment additional income options may be available including income for life, income for a fixed period, interest-only payments and IRS required minimum distributions.</p>

Part B. Annuity Information

The information below focuses on the annuity options under the plan. Annuities are insurance contracts that allow you to receive a guaranteed stream of payments at regular intervals, usually beginning when you retire and lasting for your entire life. Annuities are issued by insurance companies. Guarantees of an insurance company are subject to its long-term financial strength and claims-paying ability.

TIAA Traditional Annuity Lifetime Income Option

OBJECTIVES / GOALS

To provide a guaranteed stable stream of income for your life and, if you choose, the life of an annuity partner. A TIAA Traditional Annuity provides income stability by providing a minimum guaranteed interest rate as well as the potential for additional interest. TIAA Traditional can be part of a diversified retirement portfolio that may include stocks (equities), bonds (fixed income), real estate, and money market investments. Electing a life annuity is just one of many payout options available under the TIAA Traditional Annuity.

PRICING FACTORS

The amount of your lifetime income is dependent upon many factors including:

- The type of annuity selected (single life, joint life, with or without guaranteed minimum periods), and your selection of either the standard or graded benefit method.
- The amount of accumulations converted to a life annuity.
- Your age and, if applicable, the age of your annuity partner.
- The projected returns of the TIAA Traditional Annuity.

Under no circumstances will you receive less than the guaranteed amount of income required under the annuity contracts. To learn more about investments that offer lifetime annuity income, please access the web link provided in the Performance and Fee Information section.

RESTRICTIONS / FEES

- You may not begin a one-life annuity after you attain age 90, nor may you begin a two-life annuity after you or your annuity partner attains age 90.
- Subject to contract terms, if your accumulation is less than \$5,000 on your annuity starting date, TIAA may choose instead to pay your accumulations to you in a single sum.
- If your TIAA annuity payment would be less than \$100, TIAA has the right to change the payment frequency which would result in a payment of \$100 or more.
- Once you have elected a lifetime annuity, your election is irrevocable.

TIAA Real Estate and CREF Variable Annuity Lifetime Income Options

OBJECTIVES / GOALS

To provide a variable stream of income for your life and, if you choose, the life of an annuity partner. This lifetime annuity provides a variable income that you cannot outlive. A variable annuity can be part of a diversified retirement portfolio that may include guaranteed, stocks (equities), bonds (fixed income), real estate, and money market investments. Electing a life annuity is just one of many payout options available.

PRICING FACTORS

The amount of your lifetime income is dependent upon many factors including:

- The type of annuity selected (single life, joint life, with or without guaranteed minimum periods).
- The amount of accumulations converted to a life annuity.
- Your age and, if applicable, the age of your annuity partner.
- The investment performance of the variable annuity account your annuity is based upon.

Variable annuity accounts don't guarantee a minimum income. Income fluctuates based on market performance and is directly tied to the accounts' investment returns. A 4% annual investment return is assumed. Generally, if the actual return in a given year is greater than 4% the amount of annuity income will increase; if it is less than 4%, the income will decrease. To learn more about investments that offer lifetime annuity income, please access the web link provided in the Performance and Fee Information section.

RESTRICTIONS / FEES

- You may not begin a one-life annuity after you attain age 90, nor may you begin a two-life annuity after you or your annuity partner attains age 90.
- Subject to contract terms, if your accumulation is less than \$5,000 on your annuity starting date, TIAA may choose instead to pay your accumulations to you in a single sum.
- If your annuity payment would be less than \$100, TIAA has the right to change the payment frequency which would result in a payment of \$100 or more.
- Once you have elected a lifetime annuity, your election is irrevocable.
- Upon annuitization of CREF accumulations, the expenses associated with CREF will be the same as the R3 Class regardless of the CREF Class prior to annuitization. The R3 Class has the lowest expense of all the CREF Classes.

Please visit www.TIAA.org/public/support/help/glossary/index.html for a glossary of investment terms relevant to the investment options under this plan.

Fees and expenses are only one of many factors to consider when you decide to invest in an option. You may also want to think about whether an investment in a particular option, along with your other investments, will help you achieve your financial goals. The cumulative effect of fees and expenses can substantially reduce the growth of your retirement savings. Visit the Department of Labor's website for an example showing the long-term effect of fees and expenses at www.dol.gov/sites/default/files/ebsa/about-ebsa/our-activities/resource-center/publications/a-look-at-401k-plan-fees.pdf.

TIAA important additional information:

The returns quoted represent past performance, which is no guarantee of future results. Returns and the principal value of your investment will fluctuate. Current performance may be higher or lower than that shown, and you may have a gain or a loss when you redeem your investments. Expense ratios shown are based on the most recent information available, but may not reflect all updates. Please consult the most recent prospectus or offering document for more detailed information.

Variable return investments (mutual funds and/or variable annuities) are offered through your plan sponsor's retirement plan. 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.

If a variable return investment option includes performance for periods beyond its inception date that performance is based on the performance of an older share class of the investment option. Such performance has not been restated to reflect expense differences between the two classes. If expense differences had been reflected, performance for these periods would be lower or higher than stated.

Expense ratios shown are 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.

TIAA provides information on restrictions on record kept investment options, as well as performance and product information for all proprietary investment options. TIAA assumes no responsibility for damages or losses arising from the use of such information, and has not independently verified the accuracy or completeness of such information.

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The Morningstar Category classifies an investment option based on its investment style as measured by underlying portfolio holdings (portfolio statistics and compositions over the past three years). If the investment option 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.

There are inherent risks in investing in variable return investments including loss of principal. Please read the prospectus and carefully consider the investment objectives, risks, charges and expenses before investing.

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