

Plan and Investment Notice

THE COLUMBIA UNIVERSITY RETIREMENT PROGRAMS

November 11, 2022

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.

Please note that this disclosure package covers the following plans:

- The Retirement Plan For Officers Of Columbia University-(ID 100430)
- The Columbia University Voluntary Retirement Savings Plan-(ID 100431)
- The Columbia University Retirement Plan For Supporting Staff-(ID 100432)
- Columbia University Retirement Plan For Support Staff Associates-(ID 100433)

Summary of Plan Services and Costs

Multiple providers have been selected to offer 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. The information is sorted by service provider to make it easier to compare. Your plan offers a range of investment options and services from the following providers:

TIAA
Vanguard

TIAA

HOW TIAA RECORDKEEPS YOUR PLAN

TIAA provides recordkeeping services for your employer's plan which includes:

- The Retirement Plan For Officers Of Columbia University-(ID 100430)
- The Columbia University Voluntary Retirement Savings Plan-(ID 100431)
- The Columbia University Retirement Plan For Supporting Staff-(ID 100432)
- Columbia University Retirement Plan For Support Staff Associates-(ID 100433)

Each of the above plans may offer different services and investments and may assess different fees. If you currently have a TIAA account, your quarterly statement lists the plan(s) that you have. If you do not have an account, please contact your employer to determine which plans apply to you

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](https://www.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 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](https://www.tiaa.org/planinvestmentoptions). After entering your plan ID, 100430, 100431, 100432, or 100433 you will be directed to plan and investment information.

SELF-DIRECTED BROKERAGE

A TIAA Brokerage Service is available that permits you to use investments that have not been selected for your plan and are not monitored. This service permits you to use a wide variety of investments but you are expected to prudently select and monitor any investments that you make through the brokerage service. This means that you must have the skill and experience or use an independent expert to advise you. Depending upon your plan's characteristics, investments available within the brokerage service may or may not include mutual funds, equities, bonds and certificate of deposits (403(b) plans are limited to mutual funds). Generally, there are fees associated with investment transactions (purchasing or selling), as well as minimum transaction amount requirements. Before purchasing or selling an investment you should understand any applicable fees, including fees that will be associated with your transaction such as commissions or other charges for purchasing and selling the investment. To request a transaction, and to learn more about the brokerage service including fees call 800-927-3059 or visit https://www.tiaa.org/public/pdf/forms/SDA_Customer_Account_Agreement.pdf.

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 \$44.00 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 record keeper, 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 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:

| | |
|---|--|
| Retirement Plan Loan - Origination Fee | \$75 per loan initiated for general purpose, \$125 for a residential loan. This applies to plan(s): 100431 |
| Loan Maintenance | \$25 annual fee per active loan. This applies to plan(s): 100431 |
| 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): 100431 |
| Collateralized Loans | The cost to you based upon the difference between what you earn on collateral and what you pay in interest. This applies to plan(s): 100431 |
| Qualified Domestic Relations Orders (QDRO) | No charge. This applies to all plans |
| 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. |

Your plan gives you the right to direct some or all of your plan investments. You can direct your plan investments using any of the three convenient methods listed below. For a list of the designated investment alternatives offered in your plan and any designated investment managers, please refer to the complete investment fee and performance chart contained in this notice.

1. Online. Log on to your account at vanguard.com anytime. If you have not signed up for secure online account access, visit vanguard.com/register and follow the prompts. You will need your plan number: 096141.
2. By phone. Call the 24hour interactive VOICE Network at 800-523-1188. You will need a personal identification number (PIN) to use VOICE. To create a PIN, follow the prompts.
3. With personal assistance. Vanguard Participant Services associates are available at 800-523-1188 Monday through Friday from 8:30 a.m. to 9 p.m., Eastern time.

Transaction requests (e.g., a contribution, exchange or redemption) must be in good order. Good order means that Vanguard has determined that (1) your transaction request includes complete information and (2) appropriate assets are already in your account or new assets have been received.

Vanguard, as your plan's recordkeeper, will determine the necessary processing timeframes for your transaction request before submission to the fund(s).

Your transaction will then be based on the next-determined net asset value ("NAV") of the investment's shares. If your transaction request is received by Vanguard in good order on a business day before the close of regular trading on the New York Stock Exchange (NYSE) (generally 4 p.m., Eastern time), you will receive that day's NAV and trade date. If your transaction request is received in good order while the NYSE is closed, you will receive the next business day's NAV and trade date.

If your transaction involves one or more investments with an early cutoff time for processing or another trading restriction, your entire transaction will be subject to that cutoff time when the trade date for your transaction is determined. If an early cutoff time applies to an investment available in your plan, please review the next section for additional information.

You may not cancel any transaction request once processing has begun. Please be careful when placing a transaction request.

RESTRICTIONS

Frequent Trading Policy: Note that your plan investments reserve the right to revise or terminate the exchange privilege (your ability to move money between investments), limit the amount of any exchange, or reject any exchange at any time, without notice.

Because excessive transactions can disrupt the management of an investment and increase its transaction costs, your plan investments limit exchanges and other

VANGUARD

RIGHT TO DIRECT INVESTMENTS

transactions. If you move money out of an investment (other than money market funds short-term bond funds, and stable value investments and employer securities), you cannot move money back into the same investment for 60 days. This policy applies regardless of the dollar amount. Please note that the 60-day clock restarts after every exchange out of the investment.

ADDITIONAL RIGHTS AND PRIVILEGES

The plan sponsor or other named fiduciary for the plan exercises voting, tender and similar rights with respect to the mutual funds in the plan.

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 <http://retirementplans.vanguard.com/PubFundChart/columbia/1642>

COST OF PLAN SERVICES - SPECIFIC INVESTMENT SERVICES

Investments available in your plan may charge additional fees to your account for investment administration and other investment transactions, such as fund administrative charges, commissions, sales loads, sales charges, deferred sales charges, redemption fees, surrender charges, exchange fees, account fees, or purchase fees. Please review the complete investment fee and performance chart contained in the Investment Options Comparative Chart notice to determine whether these fees may be assessed for an investment option, and review your account statement for a detailed disclosure of the dollar amount actually charged to your account each quarter that is attributable to these fees.

The following changes to the plan are effective as of 05/23/2012: Vanguard has eliminated redemption fees for your plans Vanguard mutual fund designated investment alternatives, except Vanguard FTSE All-World ex-US Small-Cap Index Fund Investor Shares, for which Vanguard has reduced both the purchase fee and the redemption fee from 0.75% to 0.50%. The following changes to the plan are effective 05/23/2012: Vanguard has eliminated redemption fees for your plans Vanguard mutual fund designated investment alternatives.

COST OF PLAN SERVICES - PERSONALIZED SERVICES

Individual transaction expenses

Your account will be subject to additional fees if you select one of the following plan services. Please also

review your account statement for a detailed disclosure of the dollar amount actually charged to your

account for these services and a description of the services to which these fees relate.

Loan origination fee

An origination fee will be deducted from the loan proceeds for each loan issued from your account.

The fee is \$50 if you request the loan through vanguard.com or VOICE®, and \$100 if you request the loan

with personal assistance from a Vanguard associate.

Loan maintenance fee

An annual maintenance fee of \$25 will be deducted from your account balance for each loan in your account. The annual loan maintenance fee is charged beginning in the calendar year after the loan was issued.

Qualified domestic relations order (QDRO) fee

A Qualified Domestic Relations Order (QDRO) is a legal document ordering the division of a retirement plan account between parties in a divorce. If you or your spouse submits a QDRO to be processed for

your account, the following fees will be assessed:

QDRO processing fee: \$50.

FUND CHANGE

Please note - Effective 07/24/2020, the Vanguard Capital Value Fund will be closed and mapped to the Vanguard Windsor Fund (Adm).

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(s) list(s) 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, 100430, 100431, 100432 or 100433, you'll be directed to plan and investment information.

Visit 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 800 842-2252 or write to us at TIAA, P.O. Box 1259, Charlotte, NC, 28201.

Table 1 – Variable Return Investment Performance as of September 30, 2022

| 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 fund Inception if less than 10 years | Gross | Net | |
| Equities | | | | | | | | | |
| Mutual Fund | | | | | | | | | |
| Vanguard Emerging Markets Stock Index Fund Institutional | Diversified Emerging Mkts | VEMIX | 06/22/2000 | -24.29% | -0.68% | 1.46% | 0.10% | 0.10% | Available in all plans. Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. |
| <i>MSCI EM NR USD</i> | | | | -28.11% | -1.81% | 1.05% | \$1.00 | \$1.00 | |
| Vanguard Developed Markets Index Fund Institutional | Foreign Large Blend | VTMNX | 01/04/2001 | -25.54% | -0.62% | 4.05% | 0.05% | 0.05% | Available in all plans. Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. |
| <i>MSCI ACWI Ex USA NR USD</i> | | | | -25.17% | -0.81% | 3.01% | \$0.50 | \$0.50 | |
| Vanguard Total International Stock Index Institutional Plus | Foreign Large Blend | VTPSX | 11/30/2010 | -25.20% | -0.67% | 3.35% | 0.07% | 0.07% | Available in all plans. Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. |
| <i>MSCI ACWI Ex USA NR USD</i> | | | | -25.17% | -0.81% | 3.01% | \$0.70 | \$0.70 | |
| Vanguard Total World Stock Index Fund Institutional | Global Large-Stock Blend | VTWIX | 10/09/2008 | -20.81% | 4.44% | 7.54% | 0.08% | 0.08% | Available in all plans. Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. |
| <i>MSCI ACWI NR USD</i> | | | | -20.66% | 4.44% | 7.28% | \$0.80 | \$0.80 | |

| 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 fund Inception if less than 10 years | Gross | Net | |
| Calvert US Large Cap Core Responsible Index Fund I | Large Blend | CISIX | 06/30/2000 | -19.45% | 9.48% | 11.98% | 0.34% | 0.24% | Available in all plans. An annual plan servicing credit of up to 0.03% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. |
| Calvert US Large Cap Core Responsible TR USD | | | | -19.38% | 9.80% | | Contractual Waiver Exp: 01/31/2023 | | |
| Vanguard Institutional Index Fund Institutional Plus | Large Blend | VIIIIX | 07/07/1997 | -15.49% | 9.23% | 11.69% | 0.02% | 0.02% | Available in all plans. Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. |
| S&P 500 TR USD | | | | -15.47% | 9.24% | 11.70% | | | |
| Vanguard Total Stock Market Index Fund Institutional Plus | Large Blend | VSMPX | 04/28/2015 | -18.00% | 8.57% | 8.82% | 0.02% | 0.02% | Available in all plans. Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. |
| CRSP US Total Market TR USD | | | | -17.98% | 8.56% | 8.82% | | | |
| Vanguard Extended Market Index Fund Institutional Plus | Mid-Cap Growth | VEMPX | 01/14/2011 | -29.54% | 4.84% | 9.45% | 0.04% | 0.04% | Available in all plans. Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. |
| S&P Completion TR USD | | | | -29.62% | 4.72% | 9.31% | | | |
| Vanguard REIT Index Fund Institutional | Real Estate | VGSNX | 12/02/2003 | -18.70% | 3.11% | 6.26% | 0.10% | 0.10% | Available in all plans. 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 | | | | -16.36% | 2.90% | 6.10% | | | |
| Variable Annuity | | | | | | | | | |
| CREF Stock Account R3 | Allocation--85%+ Equity | QCSTIX | 04/24/2015 | -21.37% | 4.78% | 8.30% | 0.23% | 0.23% | Available in all plans. An annual plan servicing credit of up to 0.10% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days. |
| Morningstar Aggressive Target Risk TR USD | | | | -20.11% | 4.26% | 7.52% | | | |
| TIAA Access Account - TIAA-CREF International Equity Fund Level 1 | Foreign Large Blend | W111# | 02/01/2007 | -28.00% | -2.41% | 3.44% | 0.56% | 0.56% | Available only in plan: 100431 An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| MSCI EAFE NR USD | | | | -25.13% | -0.84% | 3.67% | Contractual Cap Exp: 02/28/2023 | | |

| 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 fund Inception if less than 10 years | Gross | Net | |
| CREF Global Equities Account R3 | Global Large- Stock Blend | QCGLIX | 04/24/2015 | -21.93% | 4.49% | 7.67% | 0.22% | 0.22% | Available in all plans. An annual plan servicing credit of up to 0.10% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. |
| <i>MSCI ACWI NR USD</i> | | | | -20.66% | 4.44% | 7.28% | \$2.20 | \$2.20 | 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 | -17.69% | 8.44% | 11.13% | 0.16% | 0.16% | Available in all plans. An annual plan servicing credit of up to 0.10% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. |
| <i>Russell 3000 TR USD</i> | | | | -17.63% | 8.62% | 11.39% | \$1.60 | \$1.60 | Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days. |
| TIAA Access Account - TIAA-CREF Equity Index Fund Level 1 | Large Blend | W122# | 02/01/2007 | -17.69% | 8.47% | 11.24% | 0.15% | 0.15% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. |
| <i>Russell 3000 TR USD</i> | | | | -17.63% | 8.62% | 11.39% | Contractual Cap Exp: 02/28/2023 | \$1.50 | Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| TIAA Access Account - TIAA-CREF Growth & Income Fund Level 1 | Large Blend | W113# | 02/01/2007 | -19.81% | 7.34% | 10.63% | 0.50% | 0.50% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. |
| <i>S&P 500 TR USD</i> | | | | -15.47% | 9.24% | 11.70% | Contractual Cap Exp: 02/28/2023 | \$5.00 | Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| TIAA Access Account - TIAA-CREF Social Choice Equity Fund Level 1 | Large Blend | W115# | 02/01/2007 | -18.07% | 8.40% | 11.05% | 0.27% | 0.27% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. |
| <i>Russell 3000 TR USD</i> | | | | -17.63% | 8.62% | 11.39% | Contractual Cap Exp: 02/28/2023 | \$2.70 | Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| CREF Growth Account R3 | Large Growth | QCGRIX | 04/24/2015 | -30.26% | 8.91% | 12.05% | 0.21% | 0.21% | Available in all plans. An annual plan servicing credit of up to 0.10% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. |
| <i>Russell 1000 Growth TR USD</i> | | | | -22.59% | 12.17% | 13.70% | \$2.10 | \$2.10 | Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days. |
| TIAA Access Account - TIAA-CREF Large-Cap Growth Fund Level 1 | Large Growth | W134# | 02/01/2007 | -31.70% | 8.97% | 12.53% | 0.50% | 0.50% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. |
| <i>Russell 1000 Growth TR USD</i> | | | | -22.59% | 12.17% | 13.70% | Contractual Cap Exp: 02/28/2023 | \$5.00 | Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |

| 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 fund Inception if less than 10 years | Gross | Net | |
| TIAA Access Account - TIAA-CREF Large-Cap Value Fund Level 1 | Large Value | W114# | 02/01/2007 | -11.62% | 4.13% | 8.41% | 0.51% | 0.51% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| <i>Russell 1000 Value TR USD</i> | | | | -11.36% | 5.29% | 9.17% | Contractual Cap Exp: 02/28/2023 | | |
| TIAA Access Account - TIAA-CREF Mid-Cap Growth Fund Level 1 | Mid-Cap Growth | W116# | 02/01/2007 | -38.72% | 3.98% | 8.08% | 0.56% | 0.56% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| <i>Russell Mid Cap Growth TR USD</i> | | | | -29.50% | 7.62% | 10.85% | Contractual Cap Exp: 02/28/2023 | | |
| TIAA Access Account - TIAA-CREF Mid-Cap Value Fund Level 1 | Mid-Cap Value | W117# | 02/01/2007 | -9.90% | 3.04% | 7.85% | 0.55% | 0.55% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| <i>Russell Mid Cap Value TR USD</i> | | | | -13.56% | 4.76% | 9.44% | Contractual Cap Exp: 02/28/2023 | | |
| TIAA Access Account - TIAA-CREF Real Estate Securities Fund Level 1 | Real Estate | W130# | 02/01/2007 | -20.80% | 4.72% | 7.01% | 0.57% | 0.57% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| <i>FTSE Nareit All Equity REITs TR USD</i> | | | | -16.27% | 4.10% | 6.99% | Contractual Cap Exp: 07/31/2023 | | |
| TIAA Access Account - TIAA-CREF Small-Cap Blend Index Fund Level 1 | Small Blend | W128# | 02/01/2007 | -23.49% | 3.56% | 8.61% | 0.15% | 0.15% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| <i>Russell 2000 TR USD</i> | | | | -23.50% | 3.55% | 8.55% | Contractual Cap Exp: 02/28/2023 | | |
| TIAA Access Account - TIAA-CREF Quant Small- Cap Equity Fund Level 1 | Small Blend | W118# | 02/01/2007 | -18.14% | 4.48% | 9.56% | 0.51% | 0.51% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| <i>Russell 2000 TR USD</i> | | | | -23.50% | 3.55% | 8.55% | Contractual Cap Exp: 02/28/2023 | | |
| Fixed Income | | | | | | | | | |
| Mutual Fund | | | | | | | | | |
| Vanguard Total International Bond Index Fund Admiral | Global Bond-USD Hedged | VTABX | 05/31/2013 | -13.06% | 0.00% | 1.64% | 0.11% | 0.11% | Available in all plans. Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. |

| 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 fund Inception if less than 10 years | Gross | Net | |
| <i>Bloomberg Global Aggregate ex-USD Float Adjusted RIC Capped TR Hedged USD</i> | | | | -12.89% | 0.17% | 1.86% | | | |
| Vanguard Short-Term Inflation-Protected Securities Index Fund Admiral | Inflation-Protected Bond | VTAPX | 10/16/2012 | -2.92% | 2.30% | 1.24% | 0.06% \$0.60 | 0.06% \$0.60 | Available in all plans. Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. |
| <i>Bloomberg US Treasury US TIPS TR USD</i> | | | | -11.57% | 1.95% | 0.99% | | | |
| Vanguard Total Bond Market Index Fund Institutional Plus | Intermediate- Term Bond | VBMPX | 02/05/2010 | -14.64% | -0.23% | 0.87% | 0.03% \$0.30 | 0.03% \$0.30 | Available in all plans. Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. |
| <i>Bloomberg US Aggregate Float Adjusted TR USD</i> | | | | -14.61% | -0.23% | 0.91% | | | |
| Variable Annuity | | | | | | | | | |
| CREF Inflation-Linked Bond Account R3 | Inflation-Protected Bond | QCILIX | 04/24/2015 | -6.46% | 2.27% | 0.94% | 0.17% \$1.70 | 0.17% \$1.70 | Available in all plans. An annual plan servicing credit of up to 0.10% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days. |
| <i>Bloomberg US Treasury Inflation Notes 1-10 Yr TR USD</i> | | | | -7.44% | 2.27% | 1.17% | | | |
| TIAA Access Account - TIAA-CREF Core Plus Bond Fund Level 1 | Intermediate Core-Plus Bond | W136# | 02/01/2007 | -15.33% | -0.06% | 1.48% | 0.40% \$4.00 | 0.40% \$4.00 | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| <i>Bloomberg US Aggregate Bond TR USD</i> | | | | -14.60% | -0.27% | 0.89% | Contractual Cap Exp: 07/31/2023 | | |
| CREF Core Bond Account R3 | Intermediate- Term Bond | QCBMIX | 04/24/2015 | -14.86% | -0.11% | 1.07% | 0.22% \$2.20 | 0.22% \$2.20 | Available in all plans. An annual plan servicing credit of up to 0.10% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days. |
| <i>Bloomberg US Aggregate Bond TR USD</i> | | | | -14.60% | -0.27% | 0.89% | | | |
| Money Market Mutual Fund | | | | | | | | | |

| 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 fund Inception if less than 10 years | Gross | Net | |
| Vanguard Federal Money Market Fund Investor 7-day current annualized yield 2.77% as of 09/30/2022 7-day effective annualized yield 2.77% as of 09/30/2022 | Money Market- Taxable | VMFXX | 07/13/1981 | 0.67% | 1.06% | 0.62% | 0.11% | 0.11% | Available in all plans. |
| FTSE Treasury Bill 3 Month USD | | | | 0.63% | 1.13% | 0.66% | \$1.10 | \$1.10 | |
| Variable Annuity | | | | | | | | | |
| CREF Money Market Account R3 7-day current annualized yield 1.74% as of 09/27/2022 7-day effective annualized yield 1.75% as of 09/27/2022 | Money Market- Taxable | QCMMIX | 04/24/2015 | 0.42% | 0.89% | 0.49% | 0.18% | 0.18% | Available in all plans. An annual plan servicing credit of up to 0.10% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. |
| iMoneyNet Money Fund Averages - All Government | | | | 0.53% | 0.84% | 0.46% | \$1.80 | \$1.80 | |
| Multi-Asset Mutual Fund | | | | | | | | | |
| Vanguard Target Retirement Income Fund | Retirement Income | VTINX | 10/27/2003 | -14.19% | 1.96% | 3.31% | 0.08% | 0.08% | Available in all plans. Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. |
| Morningstar Lifetime Allocation Moderate Income TR USD | | | | -14.27% | 2.41% | 3.35% | \$0.80 | \$0.80 | |
| Vanguard Target Retirement 2020 Fund | Target-Date 2020 | VTW NX | 06/07/2006 | -15.83% | 2.91% | 5.46% | 0.08% | 0.08% | Available in all plans. Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. |
| Morningstar Lifetime Allocation Moderate 2020 TR USD | | | | -18.89% | 2.47% | 4.62% | \$0.80 | \$0.80 | |
| Vanguard Target Retirement 2025 Fund | Target-Date 2025 | VTTVX | 10/27/2003 | -17.53% | 3.15% | 5.96% | 0.08% | 0.08% | Available in all plans. Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. |
| Morningstar Lifetime Allocation Moderate 2025 TR USD | | | | -19.88% | 2.63% | 5.22% | \$0.80 | \$0.80 | |

| 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 fund Inception if less than 10 years | Gross | Net | |
| Vanguard Target Retirement 2030 Fund | Target-Date 2030 | VTHR | 06/07/2006 | -18.42% | 3.43% | 6.46% | 0.08% | 0.08% | Available in all plans. Round Trip: You cannot exchange into the fund within 30 calendar days of exchanging out of the fund. |
| <i>Morningstar Lifetime Allocation Moderate 2030 TR USD</i> | | | | -20.52% | 2.92% | 5.89% | | | |
| Vanguard Target Retirement 2035 Fund | Target-Date 2035 | VTTHX | 10/27/2003 | -18.87% | 3.78% | 6.99% | 0.08% | 0.08% | Available in all plans. 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> | | | | -20.74% | 3.27% | 6.46% | | | |
| Vanguard Target Retirement 2040 Fund | Target-Date 2040 | VFORX | 06/07/2006 | -19.42% | 4.11% | 7.40% | 0.08% | 0.08% | Available in all plans. 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> | | | | -20.78% | 3.56% | 6.79% | | | |
| Vanguard Target Retirement 2045 Fund | Target-Date 2045 | VTIVX | 10/27/2003 | -19.93% | 4.42% | 7.61% | 0.08% | 0.08% | Available in all plans. 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> | | | | -20.83% | 3.68% | 6.89% | | | |
| Vanguard Target Retirement 2050 Fund | Target-Date 2050 | VFIFX | 06/07/2006 | -20.18% | 4.39% | 7.60% | 0.08% | 0.08% | Available in all plans. 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> | | | | -20.91% | 3.67% | 6.85% | | | |
| Vanguard Target Retirement 2055 Fund | Target-Date 2055 | VFFVX | 08/18/2010 | -20.17% | 4.38% | 7.58% | 0.08% | 0.08% | Available in all plans. 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> | | | | -21.04% | 3.59% | 6.76% | | | |

| 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 fund Inception if less than 10 years | Gross | Net | |
| Vanguard Target Retirement 2060 Fund | Target-Date 2060 | VTTSX | 01/19/2012 | -20.16% | 4.38% | 7.58% | 0.08% | 0.08% | Available in all plans. 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> | | | | -21.18% | 3.49% | 6.65% | | | |
| Vanguard Target Retirement 2065 Fund | Target-Date 2065+ | VLXVX | 07/12/2017 | -20.10% | 4.36% | 4.95% | 0.08% | 0.08% | Available in all plans. 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> | | | | -21.18% | 3.49% | 4.13% | | | |
| Vanguard Target Retirement 2070 Fund Investor | Target-Date 2065+ | VSVNX | 06/28/2022 | - | - | -7.50% | 0.08% | 0.08% | Available in all plans. 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> | | | | | | -8.04% | | | |
| Variable Annuity | | | | | | | | | |
| TIAA Access Account - TIAA-CREF Lifecycle Retirement Income Fund Level 1 | Allocation--30% to 50% Equity | W151# | 05/01/2008 | -14.62% | 2.39% | 4.27% | 0.63% | 0.47% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| <i>S&P Target Date Retirement Income TR USD</i> | | | | -13.31% | 1.88% | 3.23% | Contractual Waiver Exp: 09/30/2022 | | |
| CREF Social Choice Account R3 | Allocation--50% to 70% Equity | QCSCIX | 04/24/2015 | -17.70% | 3.76% | 6.03% | 0.19% | 0.19% | Available in all plans. An annual plan servicing credit of up to 0.10% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: If a round trip is made within 60 calendar days, exchanges into the same account will be restricted for 90 calendar days. |
| <i>Morningstar Moderate Target Risk TR USD</i> | | | | -18.20% | 2.95% | 5.17% | | | |
| TIAA Access Account - TIAA-CREF Lifecycle 2010 Fund Level 1 | Target Date 2000- 2010 | W138# | 02/01/2007 | -14.54% | 2.46% | 4.60% | 0.62% | 0.47% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| <i>S&P Target Date 2010 TR USD</i> | | | | -13.60% | 2.33% | 3.99% | Contractual Waiver Exp: 09/30/2022 | | |

| 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 fund Inception if less than 10 years | Gross | Net | |
| | | | | | | | | | |
| TIAA Access Account - TIAA-CREF Lifecycle 2015 Fund Level 1 | Target-Date 2015 | W139# | 02/01/2007 | -15.01% | 2.69% | 5.02% | 0.63% | 0.48% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| S&P Target Date 2015 TR USD | | | | -13.95% | 2.61% | 4.65% | Contractual Waiver Exp: 09/30/2022 | | |
| TIAA Access Account - TIAA-CREF Lifecycle 2020 Fund Level 1 | Target-Date 2020 | W140# | 02/01/2007 | -15.74% | 2.84% | 5.52% | 0.63% | 0.49% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| S&P Target Date 2020 TR USD | | | | -14.75% | 2.64% | 5.11% | Contractual Waiver Exp: 09/30/2022 | | |
| TIAA Access Account - TIAA-CREF Lifecycle 2025 Fund Level 1 | Target-Date 2025 | W141# | 02/01/2007 | -16.70% | 3.17% | 6.10% | 0.66% | 0.51% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| S&P Target Date 2025 TR USD | | | | -15.16% | 3.24% | 5.80% | Contractual Waiver Exp: 09/30/2022 | | |
| TIAA Access Account - TIAA-CREF Lifecycle 2030 Fund Level 1 | Target-Date 2030 | W142# | 02/01/2007 | -17.74% | 3.44% | 6.63% | 0.68% | 0.52% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| S&P Target Date 2030 TR USD | | | | -16.23% | 3.58% | 6.34% | Contractual Waiver Exp: 09/30/2022 | | |
| TIAA Access Account - TIAA-CREF Lifecycle 2035 Fund Level 1 | Target-Date 2035 | W143# | 02/01/2007 | -18.89% | 3.69% | 7.12% | 0.70% | 0.53% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| S&P Target Date 2035 TR USD | | | | -17.42% | 3.92% | 6.83% | Contractual Waiver Exp: 09/30/2022 | | |
| TIAA Access Account - TIAA-CREF Lifecycle 2040 Fund Level 1 | Target-Date 2040 | W144# | 02/01/2007 | -19.65% | 3.98% | 7.53% | 0.72% | 0.54% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| S&P Target Date 2040 TR USD | | | | -18.21% | 4.16% | 7.18% | Contractual Waiver Exp: 09/30/2022 | | |
| TIAA Access Account - TIAA-CREF Lifecycle 2045 Fund Level 1 | Target-Date 2045 | W149# | 05/01/2008 | -20.40% | 4.25% | 7.73% | 0.74% | 0.55% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| S&P Target Date 2045 TR USD | | | | -18.70% | 4.27% | 7.40% | Contractual Waiver Exp: 09/30/2022 | | |

| 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 fund Inception if less than 10 years | Gross | Net | |
| TIAA Access Account - TIAA-CREF Lifecycle 2050 Fund Level 1 | Target-Date 2050 | W150# | 05/01/2008 | -20.75% | 4.25% | 7.77% | 0.75% | 0.55% | Available only in plan: 100431. An annual plan servicing credit of up to 0.05% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Round Trip: You cannot transfer into the account within 30 calendar days of transferring out. |
| S&P Target Date 2050 TR USD | | | | -18.88% | 4.35% | 7.61% | Contractual Waiver Exp: 09/30/2022 | | |
| Real Estate | | | | | | | | | |
| Variable Annuity | | | | | | | | | |
| TIAA Real Estate Account | N/A | QREARX | 10/02/1995 | 18.78% | 7.97% | 8.01% | 0.77% | 0.77% | Available in all plans. An annual plan servicing credit of up to 0.24% may be credited on a quarterly basis. For more information refer to Section I: General Administrative Services. Transfers out: Limit 1 per quarter. Limitations may apply to any transaction resulting in a balance > \$150,000. |
| S&P 500 TR USD | | | | -15.47% | 9.24% | 11.70% | | | |

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.

*** Legend of plan name for each applicable plan number**

| Plans | Plan Names |
|--------|--|
| 100430 | The Retirement Plan For Officers Of Columbia University |
| 100431 | The Columbia University Voluntary Retirement Savings Plan |
| 100432 | The Columbia University Retirement Plan For Supporting Staff |
| 100433 | Columbia University Retirement Plan For Support Staff Associates |

VANGUARD

To request additional plan information from this service provider or a paper copy of information available online, free of charge, contact: Vanguard online at <http://retirementplans.vanguard.com/PubFundChart/columbia/1642>, contact Vanguard Participant Services at 800-523-1188 or write Vanguard at P.O. Box 2900, Valley Forge, PA 19482-2900. A free paper copy of the information available on the Web site can be obtained by contacting Vanguard Participant Services at 800-523-1188.

This table shows fee and expense information, including total annual operating expenses, for each investment listed below. Total annual operating expenses are expenses that reduce the rate of return of the investment option. This table shows shareholder-type fees, which are in addition to total annual operating expenses. This table shows any restrictions or limitations that may apply to purchases, transfers or withdrawals of the investment. Information about an option's principal risks is available on your plan's website.

Table 1 – Variable Return Investment Performance as of September 30, 2022

| 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 | -24.29% | -0.68% | 1.46% | 0.10% \$1.00 | 0.10% \$1.00 | Available in all plans. |
| MSCI EM NR USD | | | | -28.11% | -1.81% | 1.05% | | | |
| Vanguard Total International Stock Index Institutional Plus | Foreign Large Blend | VTPSX | 11/30/2010 | -25.20% | -0.67% | 3.35% | 0.07% \$0.70 | 0.07% \$0.70 | Available in all plans. |
| MSCI ACWI Ex USA NR USD | | | | -25.17% | -0.81% | 3.01% | | | |
| Vanguard Developed Markets Index Fund Institutional | Foreign Large Blend | VTMNX | 01/04/2001 | -25.54% | -0.62% | 4.05% | 0.05% \$0.50 | 0.05% \$0.50 | Available in all plans. |
| MSCI ACWI Ex USA NR USD | | | | -25.17% | -0.81% | 3.01% | | | |
| Vanguard Total World Stock Index Fund Institutional | Global Large- Stock Blend | VTWIX | 10/09/2008 | -20.81% | 4.44% | 7.54% | 0.08% \$0.80 | 0.08% \$0.80 | Available in all plans. |
| MSCI ACWI NR USD | | | | -20.66% | 4.44% | 7.28% | | | |
| Calvert US Large Cap Core Responsible Index Fund I | Large Blend | CISIX | 06/30/2000 | -19.45% | 9.48% | 11.98% | 0.34% \$3.40 | 0.24% \$2.40 | Available in all plans. |
| Calvert US Large Cap Core Responsible TR USD | | | | -19.38% | 9.80% | | Contractual Waiver Exp: 01/31/2023 | | |
| Vanguard Institutional Index Fund Institutional Plus | Large Blend | VIIIX | 07/07/1997 | -15.49% | 9.23% | 11.69% | 0.02% \$0.20 | 0.02% \$0.20 | Available in all plans. |
| S&P 500 TR USD | | | | -15.47% | 9.24% | 11.70% | | | |

| 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 Total Stock Market Index Fund Institutional Plus | Large Blend | VSMPX | 04/28/2015 | -18.00% | 8.57% | 8.82% | 0.02% \$0.20 | 0.02% \$0.20 | Available in all plans. |
| <i>CRSP US Total Market TR USD</i> | | | | -17.98% | 8.56% | 8.82% | | | |
| Vanguard Extended Market Index Fund Institutional Plus | Mid-Cap Growth | VEMPX | 01/14/2011 | -29.54% | 4.84% | 9.45% | 0.04% \$0.40 | 0.04% \$0.40 | Available in all plans. |
| <i>S&P Completion TR USD</i> | | | | -29.62% | 4.72% | 9.31% | | | |
| Vanguard REIT Index Fund Institutional | Real Estate | VGSNX | 12/02/2003 | -18.70% | 3.11% | 6.26% | 0.10% \$1.00 | 0.10% \$1.00 | Available in all plans. |
| <i>S&P United States REIT TR USD</i> | | | | -16.36% | 2.90% | 6.10% | | | |
| Fixed Income | | | | | | | | | |
| Mutual Fund | | | | | | | | | |
| Vanguard Total International Bond Index Fund Admiral | Global Bond-USD Hedged | VTABX | 05/31/2013 | -13.06% | 0.00% | 1.64% | 0.11% \$1.10 | 0.11% \$1.10 | Available in all plans. |
| <i>Bloomberg Global Aggregate ex-USD Float Adjusted RIC Capped TR Hedged USD</i> | | | | -12.89% | 0.17% | 1.86% | | | |
| Vanguard Short-Term Inflation-Protected Securities Index Fund Admiral | Inflation-Protected Bond | VTAPX | 10/16/2012 | -2.92% | 2.30% | 1.24% | 0.06% \$0.60 | 0.06% \$0.60 | Available in all plans. |
| <i>Bloomberg US Treasury US TIPS TR USD</i> | | | | -11.57% | 1.95% | 0.99% | | | |
| Vanguard Total Bond Market Index Fund Institutional Plus | Intermediate-Term Bond | VBMPX | 02/05/2010 | -14.64% | -0.23% | 0.87% | 0.03% \$0.30 | 0.03% \$0.30 | Available in all plans. |
| <i>Bloomberg US Aggregate Float Adjusted TR USD</i> | | | | -14.61% | -0.23% | 0.91% | | | |
| Multi-Asset | | | | | | | | | |
| Mutual Fund | | | | | | | | | |
| Vanguard Target Retirement Income Fund | Retirement Income | VTINX | 10/27/2003 | -14.19% | 1.96% | 3.31% | 0.08% \$0.80 | 0.08% \$0.80 | Available in all plans. |
| <i>Morningstar Lifetime Allocation Moderate Income TR USD</i> | | | | -14.27% | 2.41% | 3.35% | | | |
| Vanguard Target Retirement 2020 Fund | Target-Date 2020 | VTWNX | 06/07/2006 | -15.83% | 2.91% | 5.46% | 0.08% \$0.80 | 0.08% \$0.80 | Available in all plans. |
| <i>Morningstar Lifetime Allocation Moderate 2020 TR USD</i> | | | | -18.89% | 2.47% | 4.62% | | | |

| 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 Target Retirement 2025 Fund | Target-Date 2025 | VTTVX | 10/27/2003 | -17.53% | 3.15% | 5.96% | 0.08% \$0.80 | 0.08% \$0.80 | Available in all plans. |
| <i>Morningstar Lifetime Allocation Moderate 2025 TR USD</i> | | | | -19.88% | 2.63% | 5.22% | | | |
| Vanguard Target Retirement 2030 Fund | Target-Date 2030 | VTHRX | 06/07/2006 | -18.42% | 3.43% | 6.46% | 0.08% \$0.80 | 0.08% \$0.80 | Available in all plans. |
| <i>Morningstar Lifetime Allocation Moderate 2030 TR USD</i> | | | | -20.52% | 2.92% | 5.89% | | | |
| Vanguard Target Retirement 2035 Fund | Target-Date 2035 | VTTHX | 10/27/2003 | -18.87% | 3.78% | 6.99% | 0.08% \$0.80 | 0.08% \$0.80 | Available in all plans. |
| <i>Morningstar Lifetime Allocation Moderate 2035 TR USD</i> | | | | -20.74% | 3.27% | 6.46% | | | |
| Vanguard Target Retirement 2040 Fund | Target-Date 2040 | VFORX | 06/07/2006 | -19.42% | 4.11% | 7.40% | 0.08% \$0.80 | 0.08% \$0.80 | Available in all plans. |
| <i>Morningstar Lifetime Allocation Moderate 2040 TR USD</i> | | | | -20.78% | 3.56% | 6.79% | | | |
| Vanguard Target Retirement 2045 Fund | Target-Date 2045 | VTIVX | 10/27/2003 | -19.93% | 4.42% | 7.61% | 0.08% \$0.80 | 0.08% \$0.80 | Available in all plans. |
| <i>Morningstar Lifetime Allocation Moderate 2045 TR USD</i> | | | | -20.83% | 3.68% | 6.89% | | | |
| Vanguard Target Retirement 2050 Fund | Target-Date 2050 | VFIFX | 06/07/2006 | -20.18% | 4.39% | 7.60% | 0.08% \$0.80 | 0.08% \$0.80 | Available in all plans. |
| <i>Morningstar Lifetime Allocation Moderate 2050 TR USD</i> | | | | -20.91% | 3.67% | 6.85% | | | |
| Vanguard Target Retirement 2055 Fund | Target-Date 2055 | VFFVX | 08/18/2010 | -20.17% | 4.38% | 7.58% | 0.08% \$0.80 | 0.08% \$0.80 | Available in all plans. |
| <i>Morningstar Lifetime Allocation Moderate 2055 TR USD</i> | | | | -21.04% | 3.59% | 6.76% | | | |
| Vanguard Target Retirement 2060 Fund | Target-Date 2060 | VTTSX | 01/19/2012 | -20.16% | 4.38% | 7.58% | 0.08% \$0.80 | 0.08% \$0.80 | Available in all plans. |

| 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 | |
| <i>Morningstar Lifetime Allocation Moderate 2060 TR USD</i> | | | | -21.18% | 3.49% | 6.65% | | | |
| Vanguard Target Retirement 2065 Fund | Target-Date 2065+ | VLXVX | 07/12/2017 | -20.10% | 4.36% | 4.95% | 0.08% \$0.80 | 0.08% \$0.80 | Available in all plans. |
| <i>Morningstar Lifetime Allocation Moderate 2060 TR USD</i> | | | | -21.18% | 3.49% | 4.13% | | | |
| Vanguard Target Retirement 2070 Fund Investor | Target-Date 2065+ | VSVNX | 06/28/2022 | - | - | -7.50% | 0.08% \$0.80 | 0.08% \$0.80 | Available in all plans. |
| <i>Morningstar Lifetime Allocation Moderate 2060 TR USD</i> | | | | | | -8.04% | | | |

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.

TIAA

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 | | | |
| | | | <p>Available only in plan: 100431. An annual plan servicing credit of up to 0.15% 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 October 2022 and will be credited through 2/28/2023. 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.</p> <p>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> |
| TIAA Traditional-Group Retirement Annuity | 5.75% | Through 02/28/2023 | |
| | | | <p>Available only in plan: 100431. An annual plan servicing credit of up to 0.15% 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 October 2022 and will be credited through 2/28/2023. 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.</p> <p>For Group Supplemental Retirement Annuity (GSRA) contracts, and subject to the terms of your employer's plan, lump-sum withdrawals and transfers are available from the TIAA Traditional account without any restrictions or charges. After termination of employment additional income options may be available including income for life, income for a fixed period of time, and IRS required minimum distribution payments.</p> |
| TIAA Traditional-Group Supplemental Retirement Annuity | 5.00% | Through 02/28/2023 | |

| Name/Type/Option | Return | Term | Additional Information |
|---|--------|-----------------------|---|
| TIAA Traditional-Retirement Annuity | 5.75% | Through 02/28/2023 | <p>Available in all plans. An annual plan servicing credit of up to 0.15% 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 October 2022 and will be credited through 2/28/2023. 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.</p> <p>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> |
| TIAA Traditional-Retirement Choice Plus | 5.25% | Through 02/28/2023 | <p>Available only in plan: 100431. An annual plan servicing credit of up to 0.15% 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 October 2022 and will be credited through 2/28/2023. 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 is 1.00% for premiums remitted in March 2022 through February 2023, and is effective through February 2023. 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. For Retirement Choice Plus (RCP) contracts, and subject to the terms of your employer's plan, lump-sum withdrawals and transfers are available from the TIAA Traditional account without any surrender charges. For certain RCP contracts, any transfer from TIAA Traditional to a competing fund must first be directed to a non-competing fund for a period of 90 days. After 90 days, transfers may be made to a competing fund, including transferring back to TIAA Traditional. (TIAA Contract form IGRSP-02-ACC/TIAA Certificate form IGRSP-CERT3-ACC). After termination of employment additional income options may be available including income for life and IRS required minimum distribution payments. The Contractholder (typically your employer as the sponsor of your plan) has the right to remove TIAA Traditional as a plan option. If elected, the contract's entire TIAA Traditional accumulation will be paid out in 60 monthly installments, without any surrender charge and will be reinvested at the direction of your plan sponsor. Please refer to your contract certificate for additional details.</p> |

| Name/Type/Option | Return | Term | Additional Information |
|--|--------|-----------------------|---|
| TIAA Traditional-Supplemental Retirement Annuity | 5.00% | Through 02/28/2023 | <p>Available only in plan: 100431. An annual plan servicing credit of up to 0.15% 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 October 2022 and will be credited through 2/28/2023. 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.</p> <p>For Supplemental Retirement Annuity (SRA) contracts, and subject to the terms of your employer's plan, lump-sum withdrawals and transfers are available from the TIAA Traditional account without any restrictions or charges. After termination of employment additional income options may be available including income for life, income for a fixed period of time, and IRS required minimum distribution payments.</p> |
| TIAA Traditional-Retirement Choice | 6.00% | Through 02/28/2023 | <p>Available in plan(s): 100430, 100432, 100433 An annual plan servicing credit of up to 0.15% 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 October 2022 and will be credited through 2/28/2023. 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 1.00%, and is effective through 2031. 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.</p> <p>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> |

VANGUARD

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 |
|--------------------------|--------|------|-------------------------|
| NYL Guaranteed Int 10bps | 1.52% | NA | AATR - 1.52% (ONE YEAR) |

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

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.

- right to change the payment frequency which would result in a payment of \$100 or more.
- You may elect to transfer funds from your other plan investments into a TIAA-CREF Access Annuity.
- Once you have elected a lifetime annuity, your election is irrevocable.

TIAA Access Funds

OBJECTIVES / GOALS

To provide a variable stream of income for your life and, if you choose, the life of an annuity partner. A TIAA-CREF Access Account lifetime annuity provides a variable income that you cannot outlive. A TIAA-CREF Access 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 under the TIAA-CREF Access Annuities.

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 TIAA-CREF Lifecycle Retirement Income Access 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

- Access Annuity lifetime income is offered only under the TIAA-CREF Lifecycle Retirement Income Fund.
- 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-CREF Access Annuity payment would be less than \$100, TIAA has the

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.

Other service provider important additional information:

The following changes to the plan are effective as of 05/23/2012: Vanguard has eliminated redemption fees for your plans Vanguard mutual fund designated investment alternatives, except Vanguard FTSE All-World ex-US Small-Cap Index Fund Investor Shares, for which Vanguard has reduced both the purchase fee and the redemption fee from 0.75% to 0.50%. The following changes to the plan are effective 05/23/2012: Vanguard has eliminated redemption fees for your plans Vanguard mutual fund designated investment alternatives.

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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