

PLAN INVESTMENT REVIEW | PERFORMANCE SUMMARY  
 THE UNIVERSITY OF NORTH CAROLINA  
 FOR THE PERIOD ENDING 9.30.17

| INVESTMENT NAME                        | PROVIDER           | Q3 '17 | 1 YEAR* | 3 YEAR*               | 5 YEAR* | 10 YEAR* | Exp Ratio |
|--|--------------------|--------|---------|-----------------------|---------|----------|-----------|
| <b>MONEY MARKET</b>                    |                    |        |         |                       |         |          |           |
| Fidelity Government Money Market       | Fidelity           | 0.16%  | 0.34%   | 0.13%                 | 0.08%   | 0.41%    | 0.42      |
| CREF Money Market R3                   | TIAA-CREF          | 0.15%  | 0.37%   | 0.15%                 | 0.09%   | 0.42%    | 0.37      |
| Vanguard Federal Money Market          | TIAA-CREF          | 0.24%  | 0.63%   | 0.30%                 | 0.18%   | 0.50%    |           |
| BofA Merrill Lynch 3-month U.S. T-Bill | Benchmark          | 0.26%  | 0.66%   | 0.32%                 | 0.22%   | 0.47%    |           |
| <b>STABLE VALUE</b>                    |                    |        |         |                       |         |          |           |
| Fidelity Managed Income Portfolio      | Fidelity           | 0.33%  | 1.25%   | 1.21%                 | 1.12%   | 1.57%    | 0.78      |
| Lincoln Fixed Account*                 | Fidelity           | 0.50%  | 2.06%   | -                     | -       | -        | -         |
| TIAA Traditional Annuity - GRA         | TIAA-CREF          |        |         | Current Rate is 4.00% |         |          |           |
| TIAA Traditional Annuity - GSRA        | TIAA-CREF          |        |         | Current Rate is 3.25% |         |          |           |
| Hueler Stable Value Index (gross)      | Peer Group         | 0.51%  | 1.89%   | 1.81%                 | 1.81%   | 2.55%    |           |
| BofA Merrill Lynch 3-month U.S. T-Bill | Benchmark          | 0.26%  | 0.66%   | 0.32%                 | 0.22%   | 0.47%    |           |
| <b>SHORT TERM BOND</b>                 |                    |        |         |                       |         |          |           |
| Vanguard Short Term Bond Index I       | Fidelity/TIAA-CREF | 0.43%  | 0.40%   | 1.45%                 | 1.12%   | 2.66%    | 0.06      |
| Short Term Bond Universe               | Peer Group         | 0.47%  | 1.23%   | 1.33%                 | 1.15%   | 2.37%    |           |
| Barclays Government/Credit 1-3 Yr      | Benchmark          | 0.34%  | 0.66%   | 1.05%                 | 0.91%   | 2.09%    |           |
| <b>INTERMEDIATE TERM BOND</b>          |                    |        |         |                       |         |          |           |
| JPMorgan Core Bond R5                  | Fidelity           | 0.76%  | 0.18%   | 2.74%                 | 2.11%   | 4.66%    | 0.53      |
| Vanguard Total Bond Market Index Inst  | TIAA-CREF/Fidelity | 0.73%  | -0.12%  | 2.63%                 | 1.98%   | 4.25%    | 0.05      |
| MetWest Total Return Bond              | TIAA-CREF/Fidelity | 0.74%  | 0.38%   | 2.48%                 | 2.76%   | 5.67%    | 0.40      |
| JPMorgan Core Bond R6                  | TIAA-CREF          | 0.87%  | 0.28%   | 2.83%                 | 2.20%   | 4.73%    | 0.36      |
| Intermediate Term Bond Universe        | Peer Group         | 0.88%  | 0.86%   | 2.52%                 | 2.19%   | 4.24%    |           |
| Barclays Aggregate Bond Index          | Benchmark          | 0.85%  | 0.07%   | 2.71%                 | 2.06%   | 4.27%    |           |
| <b>ALLOCATION--50% TO 70% EQUITY</b>   |                    |        |         |                       |         |          |           |
| Fidelity Balanced K                    | Fidelity           | 3.57%  | 13.36%  | 7.71%                 | 10.11%  | 6.28%    | 0.46      |
| Allocation-50% to 70% Equity Universe  | Peer Group         | 3.06%  | 10.68%  | 5.57%                 | 7.69%   | 5.09%    |           |
| 60% S&P 500 40% BC Agg                 | Benchmark          | 3.03%  | 10.93%  | 7.60%                 | 9.32%   | 6.57%    |           |
| <b>WORLD ALLOCATION</b>                |                    |        |         |                       |         |          |           |
| CREF Social Choice Account R3          | TIAA-CREF          | 3.19%  | 10.89%  | 6.26%                 | 8.34%   | 5.60%    | 0.33      |
| World Allocation Universe              | Peer Group         | 3.29%  | 10.17%  | 3.91%                 | 5.71%   | 3.75%    |           |
| 60% MSCI World 40% BC Agg Index        | Benchmark          | 3.31%  | 11.00%  | 6.19%                 | 7.83%   | 4.95%    |           |
| <b>ALLOCATION--85%+ EQUITY</b>         |                    |        |         |                       |         |          |           |
| CREF Stock R3                          | TIAA-CREF          | 5.27%  | 19.20%  | 8.96%                 | 11.93%  | 5.57%    | 0.37      |
| Allocation--85%+ Equity Universe       | Peer Group         | 4.19%  | 16.11%  | 7.41%                 | 10.69%  | 4.94%    |           |
| 85% S&P 500, 15% BBgBarc Agg           | Benchmark          | 3.93%  | 15.67%  | 9.64%                 | 12.39%  | 7.12%    |           |
| <b>LARGE COMPANY VALUE</b>             |                    |        |         |                       |         |          |           |
| JHancock Disciplined Value R6          | TIAA-CREF/Fidelity | 4.70%  | 20.59%  | 8.49%                 | 13.12%  | 7.33%    | 0.77      |
| Large Value Universe                   | Peer Group         | 3.77%  | 16.45%  | 7.83%                 | 12.19%  | 5.70%    |           |
| Russell 1000 Value                     | Benchmark          | 3.11%  | 15.12%  | 8.53%                 | 13.20%  | 5.92%    |           |

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\*403(b) Plan only

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|--------------------------------------|--------------------|--------|---------|---------|---------|----------|-----------|
| <b>LARGE COMPANY BLEND</b>           |                    |        |         |         |         |          |           |
| Vanguard Instl Index Fund            | TIAA-CREF/Fidelity | 4.48%  | 18.60%  | 10.81%  | 14.22%  | 7.46%    | 0.04      |
| Large Blend Universe                 | Peer Group         | 4.27%  | 17.72%  | 9.02%   | 12.94%  | 6.56%    |           |
| S&P 500 Index                        | Benchmark          | 4.48%  | 18.61%  | 10.81%  | 14.22%  | 7.44%    |           |
| <b>LARGE COMPANY GROWTH</b>          |                    |        |         |         |         |          |           |
| Vanguard FTSE Social Index Inv       | Fidelity           | 4.76%  | 20.49%  | 11.56%  | 16.10%  | 7.36%    | 0.25      |
| Fidelity Contrafund K                | Fidelity           | 6.12%  | 23.32%  | 12.14%  | 14.67%  | 8.64%    | 0.61      |
| T Rowe Price Instl Large Cap Growth  | TIAA-CREF/Fidelity | 7.38%  | 30.72%  | 15.00%  | 17.84%  | 10.39%   | 0.56      |
| Large Growth Universe                | Peer Group         | 5.38%  | 19.89%  | 10.51%  | 13.78%  | 7.59%    |           |
| Russell 1000 Growth                  | Benchmark          | 5.90%  | 21.94%  | 12.69%  | 15.26%  | 9.08%    |           |
| <b>MEDIUM COMPANY VALUE</b>          |                    |        |         |         |         |          |           |
| MFS Mid Cap Value R4                 | Fidelity           | 2.44%  | 13.80%  | 9.09%   | 14.01%  | 7.86%    | 0.94      |
| MFS Mid Cap Value R6                 | TIAA-CREF          | 2.48%  | 13.95%  | 9.26%   | 14.13%  | 7.77%    | 0.84      |
| Mid Value Universe                   | Peer Group         | 2.81%  | 14.74%  | 7.98%   | 12.81%  | 6.86%    |           |
| Russell MidCap Value                 | Benchmark          | 2.14%  | 13.37%  | 9.19%   | 14.33%  | 7.85%    |           |
| <b>MEDIUM COMPANY BLEND</b>          |                    |        |         |         |         |          |           |
| Vanguard Ext Mkt Idx Instl Plus      | TIAA-CREF/Fidelity | 4.97%  | 19.04%  | 10.48%  | 14.25%  | 8.29%    | 0.06      |
| Mid Blend Universe                   | Peer Group         | 3.27%  | 15.58%  | 7.96%   | 12.73%  | 6.82%    |           |
| Russell MidCap                       | Benchmark          | 3.47%  | 15.32%  | 9.54%   | 14.26%  | 8.08%    |           |
| <b>MEDIUM COMPANY GROWTH</b>         |                    |        |         |         |         |          |           |
| MassMutual Select Mid Cap Gr Eq II   | TIAA-CREF/Fidelity | 4.28%  | 19.83%  | 13.29%  | 16.05%  | 9.68%    | 0.75      |
| Mid Growth Universe                  | Peer Group         | 4.56%  | 18.33%  | 9.32%   | 12.70%  | 7.08%    |           |
| Russell MidCap Growth                | Benchmark          | 5.28%  | 17.82%  | 9.96%   | 14.18%  | 8.20%    |           |
| <b>FOREIGN LARGE VALUE</b>           |                    |        |         |         |         |          |           |
| MFS International Value R4           | Fidelity           | 3.22%  | 13.21%  | 10.22%  | 12.16%  | 6.08%    | 0.84      |
| MFS International Value R6           | TIAA-CREF          | 3.24%  | 13.31%  | 10.33%  | 12.27%  | 6.13%    | 0.69      |
| Foreign Large Value Universe         | Peer Group         | 5.32%  | 18.80%  | 3.81%   | 7.24%   | 0.66%    |           |
| MSCI EAFE                            | Benchmark          | 5.47%  | 19.65%  | 5.53%   | 8.87%   | 1.82%    |           |
| <b>FOREIGN LARGE BLEND</b>           |                    |        |         |         |         |          |           |
| Amer Funds EuroPac R6                | TIAA-CREF          | 6.86%  | 20.63%  | 7.56%   | 9.51%   | 3.60%    | 0.49      |
| Amer Funds EuroPac R4                | Fidelity           | 6.77%  | 20.21%  | 7.20%   | 9.13%   | 3.30%    | 0.85      |
| Vanguard Total Intl Stock Index Inst | TIAA-CREF/Fidelity | 5.97%  | 19.30%  | 5.32%   | 7.51%   | 1.33%    | 0.10      |
| Foreign Large Blend Universe         | Peer Group         | 5.41%  | 18.28%  | 4.99%   | 7.77%   | 1.26%    |           |
| MSCI EAFE                            | Benchmark          | 5.47%  | 19.65%  | 5.53%   | 8.87%   | 1.82%    |           |
| <b>FOREIGN SMALL/MID GROWTH</b>      |                    |        |         |         |         |          |           |
| T Rowe Price International Discovery | TIAA-CREF/Fidelity | 9.32%  | 25.06%  | 13.09%  | 13.71%  | 6.09%    | 1.20      |
| Foreign Small/Mid Growth Universe    | Peer Group         | 7.81%  | 19.80%  | 9.31%   | 10.86%  | 4.23%    |           |
| MSCI World ex USA Smid Cap USD       | Benchmark          | 6.71%  | 19.88%  | 9.00%   | 10.78%  | 3.56%    |           |
| <b>SMALL COMPANY VALUE</b>           |                    |        |         |         |         |          |           |
| Goldman Sachs Small Value Inst       | TIAA-CREF/Fidelity | 6.00%  | 19.98%  | 11.12%  | 14.03%  | 9.01%    | 0.99      |
| Small Value Universe                 | Peer Group         | 4.66%  | 18.19%  | 9.47%   | 12.48%  | 7.24%    |           |
| Russell 2000 Value                   | Benchmark          | 5.11%  | 20.55%  | 12.12%  | 13.27%  | 7.14%    |           |

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| <b>SMALL COMPANY GROWTH</b>                   |                    |        |         |         |         |          |           |
| Eagle Small Cap Growth R5                     | Fidelity           | 3.97%  | 19.86%  | 11.16%  | 12.88%  | 8.78%    | 0.75      |
| Eagle Small Cap Growth R6                     | TIAA-CREF          | 3.99%  | 20.01%  | 11.28%  | 13.01%  | 8.68%    | 0.66      |
| Small Growth Universe                         | Peer Group         | 5.46%  | 20.13%  | 11.00%  | 12.91%  | 7.64%    |           |
| Russell 2000 Growth                           | Benchmark          | 6.22%  | 20.98%  | 12.17%  | 14.28%  | 8.47%    |           |
| <b>SPECIALTY-REAL ESTATE</b>                  |                    |        |         |         |         |          |           |
| Cohen & Steers Realty Shares                  | Fidelity           | -0.03% | 0.24%   | 9.77%   | 9.57%   | 5.98%    | 0.96      |
| Cohen & Steers Instl Realty Shares            | TIAA-CREF          | 0.11%  | 0.63%   | 10.02%  | 9.84%   | 6.19%    | 0.75      |
| Specialty-Real Estate Universe                | Peer Group         | 0.62%  | 0.54%   | 8.54%   | 8.53%   | 5.20%    |           |
| Dow Jones US Select REIT                      | Benchmark          | 0.38%  | -0.83%  | 9.28%   | 9.16%   | 5.31%    |           |
| <b>SPECIALTY-REAL ESTATE</b>                  |                    |        |         |         |         |          |           |
| TIAA Real Estate Account                      | TIAA-CREF          | 1.08%  | 4.34%   | 6.74%   | 8.04%   | 2.58%    | 0.87      |
| Specialty-Real Estate Universe                | Peer Group         | 0.62%  | 0.54%   | 8.54%   | 8.53%   | 5.20%    |           |
| NCREIF Property Index                         | Benchmark          | 1.70%  | 6.90%   | 9.83%   | 10.35%  | 6.23%    |           |
| <b>TARGET DATE</b>                            |                    |        |         |         |         |          |           |
| Vanguard Instl Target Retirement Income Instl | TIAA-CREF/Fidelity | 1.99%  | 5.30%   | -       | -       | -        | 0.10      |
| Retirement Income Moderate                    | Peer Group         | 2.30%  | 6.30%   | 4.12%   | 4.63%   | 4.16%    |           |
| Morningstar Lifetime Moderate Income Index    | Benchmark          | 2.16%  | 5.37%   | 3.77%   | 4.29%   | -        |           |
| Vanguard Instl Target Retirement 2015 Instl   | TIAA-CREF/Fidelity | 2.63%  | 8.02%   | -       | -       | -        | 0.10      |
| 2015 Moderate                                 | Peer Group         | 2.68%  | 8.55%   | 4.86%   | 6.36%   | 4.05%    |           |
| Morningstar Lifetime Moderate 2015 Index      | Benchmark          | 2.69%  | 7.16%   | 4.79%   | 5.97%   | -        |           |
| Vanguard Instl Target Retirement 2020 Instl   | TIAA-CREF/Fidelity | 3.16%  | 10.17%  | -       | -       | -        | 0.10      |
| 2020 Moderate                                 | Peer Group         | 3.16%  | 10.13%  | 5.41%   | 7.47%   | 4.32%    |           |
| Morningstar Lifetime Moderate 2020 Index      | Benchmark          | 2.98%  | 8.34%   | 5.28%   | 6.82%   | -        |           |
| Vanguard Instl Target Retirement 2025 Instl   | TIAA-CREF/Fidelity | 3.55%  | 11.85%  | -       | -       | -        | 0.10      |
| 2025 Conservative                             | Peer Group         | 3.02%  | 9.82%   | 5.44%   | 6.89%   | 4.26%    |           |
| Morningstar Lifetime Conservative 2025 Index  | Benchmark          | 2.62%  | 6.53%   | 4.79%   | 5.79%   | -        |           |
| Vanguard Instl Target Retirement 2030 Instl   | TIAA-CREF/Fidelity | 3.86%  | 13.27%  | -       | -       | -        | 0.10      |
| 2030 Conservative                             | Peer Group         | 3.59%  | 11.62%  | 6.04%   | 7.66%   | 4.11%    |           |
| Morningstar Lifetime Conservative 2030 Index  | Benchmark          | 2.96%  | 8.11%   | 5.37%   | 6.80%   | -        |           |
| Vanguard Instl Target Retirement 2035 Instl   | TIAA-CREF/Fidelity | 4.21%  | 14.85%  | -       | -       | -        | 0.10      |
| 2035 Conservative                             | Peer Group         | 3.98%  | 13.79%  | 6.58%   | 8.74%   | 4.58%    |           |
| Morningstar Lifetime Conservative 2035 Index  | Benchmark          | 3.41%  | 10.22%  | 6.05%   | 7.91%   | -        |           |
| Vanguard Instl Target Retirement 2040 Instl   | TIAA-CREF/Fidelity | 4.51%  | 16.35%  | -       | -       | -        | 0.10      |
| 2040 Moderate                                 | Peer Group         | 4.46%  | 15.76%  | 7.46%   | 10.15%  | 4.99%    |           |
| Morningstar Lifetime Moderate 2040 Index      | Benchmark          | 4.56%  | 15.60%  | 7.45%   | 10.13%  | -        |           |
| Vanguard Instl Target Retirement 2045 Instl   | TIAA-CREF/Fidelity | 4.68%  | 16.87%  | -       | -       | -        | 0.10      |
| 2045 Moderate                                 | Peer Group         | 4.53%  | 16.14%  | 7.47%   | 9.73%   | 4.86%    |           |
| Morningstar Lifetime Moderate 2045 Index      | Benchmark          | 4.73%  | 16.22%  | 7.55%   | 10.20%  | -        |           |
| Vanguard Instl Target Retirement 2050 Instl   | TIAA-CREF/Fidelity | 4.67%  | 16.92%  | -       | -       | -        | 0.10      |
| 2050 Moderate                                 | Peer Group         | 4.49%  | 16.23%  | 7.58%   | 10.12%  | 5.24%    |           |
| Morningstar Lifetime Moderate 2050 Index      | Benchmark          | 4.79%  | 16.39%  | 7.52%   | 10.14%  | -        |           |

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|--|---------------------------|--------------|---------------|---------|---------|----------|-----------|
| <b>Vanguard Instl Target Retirement 2055 Instl</b><br>2055 Moderate  | <b>TIAA-CREF/Fidelity</b> | <b>4.71%</b> | <b>16.95%</b> | -       | -       | -        | 0.10      |
| Morningstar Lifetime Moderate 2055 Index                             | <b>Peer Group</b>         | 4.63%        | 16.57%        | 7.95%   | 10.44%  | 6.06%    |           |
|  | <b>Benchmark</b>          | 4.83%        | 16.46%        | 7.47%   | 10.04%  | -        |           |
| <b>Vanguard Instl Target Retirement 2060 Instl</b><br>2060+ Moderate | <b>TIAA-CREF/Fidelity</b> | <b>4.67%</b> | <b>16.90%</b> | -       | -       | -        | 0.10      |
| Morningstar Lifetime Moderate 2060 Index                             | <b>Peer Group</b>         | 4.69%        | 16.80%        | 8.42%   | 10.93%  | -        |           |
|  | <b>Benchmark</b>          | 4.86%        | 16.48%        | 7.39%   | -       | -        |           |

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