DUKE UNIVERSITY

OMB Circular A-133 Reports

Year ended June 30, 2008

EIN #1 – 56-053-2129

DUKE UNIVERSITY

OMB Circular A-133 Reports

Table of Contents

KPMG LLP
Suite 400
300 North Greene Street
Greensboro, NC 27401

Independent Auditors' Report on Financial Statements and Supplementary Schedule of Expenditures of Federal and State Awards

The Board of Trustees Duke University:

We have audited the accompanying consolidated balance sheet of Duke University as of June 30, 2008, and the related consolidated statements of activities and cash flows for the year then ended. These consolidated financial statements are the responsibility of Duke University's management. Our responsibility is to express an opinion on these consolidated financial statements based on our audit. The prior year summarized comparative information has been derived from Duke University's 2007 consolidated financial statements and in our report dated September 28, 2007 we expressed an unqualified opinion on those consolidated financial statements, which included an explanatory paragraph that indicated the University adopted the recognition and disclosure provisions of the Financial Accounting Standards Board Statement No. 158, *Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans – an amendment of FASB Statements No. 87, 88, 106, and 132(R)* (Statement No. 158).

We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement. An audit includes consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of Duke University's internal control over financial reporting. Accordingly, we express no such opinion. An audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the consolidated financial statements, assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall consolidated financial statement presentation. We believe that our audit provides a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Duke University as of June 30, 2008, and the changes in its net assets and its cash flows for the year then ended in conformity with U.S. generally accepted accounting principles. As discussed in Note 1(R) to the consolidated financial statements, the University adopted the measurement date provisions of Statement No. 158 as of June 30, 2008.

In accordance with *Government Auditing Standards*, we have also issued our report dated October 3, 2008, on our consideration of Duke University's internal control over financial reporting and our tests on its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* and should be considered in assessing the results of our audit.

Our audit was performed for the purpose of forming an opinion on the consolidated financial statements taken as a whole. The accompanying schedule of expenditures of federal and state awards is presented for purposes of additional analysis as required by U.S. Office Management and Budget Circular A-133, *Audits of States, Local Governments, and Non-Profit Organizations* and is not a required part of the consolidated financial statements. Such information has been subjected to the auditing procedures applied in the audit of the consolidated financial statements and, in our opinion, is fairly stated, in all material respects in relation to the consolidated financial statements taken as a whole.

KPMG LLP

October 3, 2008

Consolidated Balance Sheet

JUNE 30, 2008
(WITH SUMMARIZED FINANCIAL INFORMATION FOR JUNE 30, 2007)
(000'S OMITTED)

	2008	2007
Assets:		
Cash and cash equivalents	$ 414,470	$ 234,665
Cash held as collateral under securities lending transactions	…	70,114
Patient receivables, net	256,619	256,475
Other receivables, net	236,353	195,474
Prepaid expenses, deferred charges and inventories	678,670	561,410
Contributions receivable, net	422,496	347,372
Student loans receivable, net	43,243	38,788
Investments	8,525,134	7,939,103
Deposits with bond trustees	59,281	135,982
Land, buildings, and equipment, net	2,294,350	2,165,247
Interests in perpetual trusts held by others	751,680	751,998
Goodwill, net	800	878
Total assets	$ 13,683,096	$ 12,697,506
Liabilities:		
Accounts payable	$ 367,175	$ 313,267
Accrued payroll and employee withholdings	213,908	194,835
Deferred revenues and deposits	155,746	114,731
Liability under securities lending transactions	…	70,114
Notes and bonds payable	1,774,661	1,593,396
Annuity and other split-interest obligations	44,675	43,230
Accrued postretirement/postemployment and other benefit obligations	239,327	235,003
Minority interest	191,917	…
Other liabilities	171,446	103,766
Total liabilities	3,158,855	2,668,342
Net Assets:		
Unrestricted	8,083,169	7,791,812
Temporarily restricted	250,263	166,416
Permanently restricted	2,190,809	2,070,936
Total net assets	10,524,241	10,029,164
Total liabilities and net assets	$ 13,683,096	$ 12,697,506

See accompanying notes to consolidated financial statements.

Consolidated Statement of Activities

YEAR ENDED JUNE 30, 2008
(WITH SUMMARIZED FINANCIAL INFORMATION FOR THE YEAR ENDED JUNE 30, 2007)
(000'S OMITTED)

	Unrestricted Net Assets	Temporarily Restricted Net Assets	Permanently Restricted Net Assets	2008 Total	2007 Total
Operating revenues and support:					
Tuition and fees	$ 462,590	$ …	$ …	$ 462,590	$ 434,768
Less student aid	(145,119)	…	…	(145,119)	(139,449)
	317,471	…	…	317,471	295,319
Grants, contracts and similar agreements:					
Government sources	537,561	…	…	537,561	545,493
The Private Diagnostic Clinic, PLLC	64,003	…	…	64,003	65,811
Other	267,261	…	…	267,261	194,578
Total grants, contracts and similar agreements	868,825	…		868,825	805,882
Contributions	127,238	…	…	127,238	91,172
Investment return designated for current operations:					
The Duke Endowment	12,499	…	…	12,499	11,877
Endowment spending	232,850	…	…	232,850	149,045
Other investment income	185,258	…	…	185,258	192,761
Auxiliary enterprises	151,964	…	…	151,964	147,512
Patient service revenue	1,740,598	…	…	1,740,598	1,654,416
Other	218,165	…	…	218,165	198,347
Net assets released from restrictions	37,852	(37,852)	…	…	…
Total operating revenues and support	3,892,720	(37,852)	…	3,854,868	3,546,331
Operating expenses:					
Salaries and wages	1,680,333	…	…	1,680,333	1,554,660
Employee benefits	328,188	…	…	328,188	303,252
Net postretirement/postemployment benefit expense (credit)	2,016	…	…	2,016	(8,435)
Student aid	32,698	…	…	32,698	28,245
Other operating expenses	1,344,452	…	…	1,344,452	1,317,058
Interest on indebtedness	73,572	…	…	73,572	62,936
Depreciation and amortization	236,341	…	…	236,341	216,828
Total operating expenses	3,697,600	…	…	3,697,600	3,474,544
Excess (deficit) of operating revenues and support over (under) operating expenses	195,120	(37,852)	…	157,268	71,787
Nonoperating activities:					
Restricted contributions	…	105,296	119,033	224,329	198,225
Investment return in excess of amounts designated for current operations	58,567	29	1,178	59,774	1,261,193
Nonperiodic changes in defined benefit plans	98,046	…	…	98,046	…
(Loss) gain on perpetual trusts held by others and changes in split interest obligations	…	(2,924)	(1,289)	(4,213)	82,615
Other	(63,205)	19,298	951	(42,956)	7,125
Change in net assets from nonoperating activities	93,408	121,699	119,873	334,980	1,549,158
Cumulative effect of changes in accounting principle	2,829	…	…	2,829	513,113
Increase in net assets	291,357	83,847	119,873	495,077	2,134,058
Net assets at beginning of year	7,791,812	166,416	2,070,936	10,029,164	7,895,106
Net assets at end of year	$ 8,083,169	$ 250,263	$ 2,190,809	$10,524,241	$ 10,029,164

See accompanying notes to consolidated financial statements.

Consolidated Statement of Cash Flows

YEAR ENDED JUNE 30, 2008
(WITH SUMMARIZED FINANCIAL INFORMATION FOR THE YEAR ENDED JUNE 30, 2007)
(000'S OMITTED)

	2008	2007
Cash flows from operating activities:		
Increase in net assets	$ 495,077	$ 2,134,058
Adjustments to reconcile increase in net assets to net cash provided by operating activities:		
Depreciation and amortization	236,341	216,828
Cumulative effect of changes in accounting principle	(2,829)	(513,113)
Loss on extinguishment of debt	…	17,778
Loss on disposals of land, buildings, and equipment	3,374	3,772
Contributions of property	(1,172)	(4,461)
Restricted contributions received for long-term investment and capital projects	(163,363)	(183,877)
Permanently restricted investment return	(1,178)	(11,467)
Permanently restricted losses (gains) on other nonoperating items	(1,415)	2,288
Net realized and unrealized gains on investments	(58,596)	(1,249,726)
Minority interest in losses of subsidiary	(15,317)	…
Decrease (increase) in:		
Patient receivables, net	(144)	(7,010)
Other receivables, net	(40,879)	(2,646)
Prepaid expenses, deferred charges and inventories	(113,693)	(1,592)
Contributions receivable, net	(75,124)	(14,143)
Interests in perpetual trusts held by others	318	(88,313)
Increase (decrease) in:		
Accounts payable	53,908	35,723
Accrued payroll and employee withholdings	19,073	3,540
Deferred revenues and deposits	41,015	36,221
Annuity and other split-interest obligations	1,445	3,405
Accrued postretirement/postemployment and other benefit obligations	3,199	(987)
Other liabilities	67,680	(5,276)
Net cash provided by operating activities	447,720	371,002

Consolidated Statement of Cash Flows (CONTINUED)

	2008	2007
Cash flows from investing activities:		
Purchases of investments	(30,530,495)	(9,665,598)
Proceeds from sales and maturities of investments	30,003,060	9,268,905
Change in collateral deposits under securities lending transactions, net	70,114	(22,185)
Change in obligation to return collateral under securities lending transactions, net	(70,114)	22,185
Purchases of land, buildings, and equipment	(367,851)	(366,568)
Proceeds from disposals of land, buildings, and equipment	316	505
Disbursements for loans to students	(10,448)	(8,065)
Repayments of loans by students	5,993	7,035
Decrease (increase) in deposits with bond trustees	76,701	(74,724)
Net cash used in investing activities	(822,724)	(838,510)
Cash flows from financing activities:		
Restricted contributions received for long-term investment and capital projects	163,363	183,877
Permanently restricted investment return	1,178	11,467
Permanently restricted gains (losses) on other nonoperating items	1,415	(2,288)
Payments of notes and bonds payable	(99,626)	(504,641)
Proceeds from borrowings	281,245	740,482
Proceeds from minority interest in subsidiary	207,234	…
Net cash provided by financing activities	554,809	428,897
Net increase (decrease) in cash and cash equivalents	179,805	(38,611)
Cash and cash equivalents at beginning of year	234,665	273,276
Cash and cash equivalents at end of year	$ 414,470	$ 234,665
Supplemental disclosure of cash flow information:		
Cash paid for interest (net of amounts capitalized)	$ 67,084	$ 56,909

See accompanying notes to consolidated financial statements.

Notes to Consolidated Financial Statements

(000'S OMITTED)

Overview of Duke University

Duke University is a private, coeducational, nonprofit institution located primarily in Durham, North Carolina, which owns and operates educational and research facilities (The University) as well as Duke University Health System, Inc. (DUHS). The University is governed by a Board of Trustees with thirty-seven members, consisting of the President of Duke and thirty-six members drawn from private, public, and community interests.

The University's programs include undergraduate and graduate programs in Arts and Sciences, Engineering, and Nursing and professional schools in Business, Medicine, Law, Divinity, Environment, Nursing, and programs in Allied Health.

DUHS is a North Carolina nonprofit corporation organized and controlled by Duke, operating health care facilities including Duke University Hospital, Durham Regional Hospital, Duke Raleigh Hospital, and related health care clinics (see Note 2). Collectively, the University and DUHS are referred to herein as "Duke."

1. Summary of Significant Accounting Policies

A. BASIS OF PRESENTATION

The consolidated financial statements include the University, DUHS and all affiliates of DUHS, and all other entities in which Duke has a significant financial interest and over which Duke has control. All significant intercompany balances and transactions have been eliminated in consolidation. The consolidated financial statements have, in all material respects, been prepared on the accrual basis in conformity with U.S. generally accepted accounting principles (GAAP).

Net assets and revenues, expenses, gains and losses are classified based on the existence or absence of externally imposed restrictions. Accordingly, net assets of Duke are classified and reported as follows:

Permanently restricted – Net assets subject to externally imposed restrictions that they be maintained permanently by Duke. Generally, the donors of these assets permit Duke to use all or part of the income earned on related investments for general or specific purposes.

Temporarily restricted – Net assets subject to externally imposed restrictions that may or will be met either by actions of Duke and/or the passage of time.

Unrestricted – Net assets not subject to externally imposed restrictions. Certain net assets classified as unrestricted are designated for specific purposes or uses under various internal operating and administrative arrangements of Duke.

Revenues from sources other than contributions, investment returns, and changes in fair value of interests in perpetual trusts held by others are reported as increases in unrestricted net assets. Contributions are reported as increases in the appropriate classification of net assets. Contributions which impose restrictions that are met in the same fiscal year they are received are reported as increases in unrestricted net assets. Gains and losses on investments are reported as increases or decreases in unrestricted net assets unless their use is restricted by explicit external stipulations. Gains and losses on perpetual trusts held by others are reported as increases or decreases in permanently restricted net assets.

Expenses are reported as decreases in unrestricted net assets. Expirations of temporary restrictions on net assets (i.e., the externally stipulated purpose has been fulfilled and/or the stipulated time period has elapsed) are reported as net assets released from restrictions between the applicable classes of net assets in the consolidated statement of activities.

B. CASH AND CASH EQUIVALENTS

Cash equivalents include all assets invested in the Short Term Account (STA). The investments held in the STA maintain a weighted average quality rating of AA, AA equivalent, or better, as measured by Moody's, Standard and Poor's, and Fitch rating agencies. Duke utilizes the STA to fund daily cash needs and while some maturity dates may be more than ninety (90) days, all securities can be liquidated, if necessary, within thirty (30) days. The STA currently invests in short-term U.S. Treasury securities, and other short-term, highly-liquid investments. The fund is expected to generate a return approximating the three-month U.S. Treasury bill rate.

C. CONTRIBUTIONS

Contributions, including unconditional promises to give, are recognized as revenue in the period received. Contributions restricted for capital projects or permanent or term endowment funds and contributions under split-interest agreements or perpetual trusts are reported as nonoperating revenue. All other contributions are reported as operating revenue. Conditional promises to give are not recognized until the conditions on which they depend are substantially met. Temporary restrictions on gifts to acquire long-lived assets are considered met in the period in which the funds are expended. Contributions of assets other than cash are recorded at their estimated fair value at the date of gift. Contributions to be received after one year are discounted at a risk free rate which could have been obtained at the date of the gift. Amortization of the discount is recorded as additional contribution revenue. Allowance is made for uncollectible contributions receivable based upon the administration's judgment and analysis of past collection experience and other relevant factors.

D. NET PATIENT SERVICE REVENUE

DUHS recognizes revenue in the period in which services are rendered. DUHS has agreements with third-party payors that provide for payments to DUHS at amounts generally less than its established rates. Payment arrangements include prospectively determined rates per discharge, reimbursed costs, discounted charges and per diem payments. Accordingly, net patient service revenue is reported at the estimated net realizable amounts from patients, third-party payors, and others, including estimated retroactive adjustments under reimbursement agreements with third-party payors. Retroactive adjustments are accrued on an estimated basis in the period the related services are rendered and adjusted in future periods as changes to estimates become known and tentative and final settlement adjustments are identified. DUHS patient accounts receivable are reported net of allowances for contractual adjustments and uncollectible accounts of $335,480 and $286,831 at June 30, 2008 and 2007, respectively.

E. INVENTORIES

Inventories are included in prepaid expenses, deferred charges and inventories on the consolidated balance sheet, and primarily include drugs and supplies. Inventories are valued at the lower of average cost or fair value.

F. INVESTMENTS

DUMAC, LLC (DUMAC), a separate limited liability company, organized and controlled by Duke, is responsible for managing Duke's investment assets. Investments are recorded at estimated fair value. In the case of certain less marketable investments, principally real estate and private investments, value is established based on either external events which substantiate a change in fair value or a reasonable methodology that exists to capture and quantify changes in fair value. In some instances, those changes in fair value may require use of estimates. Accordingly, such values may differ from the values that would have been used had a ready market for the investments existed. The estimated values, provided primarily by investment managers, are reviewed and evaluated by DUMAC personnel.

Duke's investments include various types of investment securities and investment vehicles. Investment securities are exposed to several risks, such as interest rate, currency, market and credit risks. Due to the level of risk associated with certain investment securities, it is at least reasonably possible that changes in the values of investment securities will occur in the near term and that such changes could materially affect the amounts reported in Duke's consolidated financial statements.

Duke utilizes a diversified portfolio of debt, equity, and other investments known as the Long Term Pool (LTP) to invest its funds. Participation in or withdrawal from the LTP is based on the fair value per unit at quarterly intervals during the year. The LTP is included in investments on the consolidated balance sheet.

All permanently restricted endowment net assets, long-term net assets functioning as endowment, and invested departmental working capital are managed in the LTP, unless special considerations or donor stipulations require that they be held separately.

Income and realized gains and losses on investments of working capital are reported as investment return included in operating revenues. Any excess of income and realized gains earned on investments held under split-interest agreements are reported as nonoperating revenues.

DUMAC also approves strategic use of derivatives by external investment managers to manage market risks. The most common strategies engaged by such managers are futures contracts, short sales, and hedges against currency translation risk for investments denominated in other than U.S. dollars. These derivative instruments are recorded at their respective fair values.

G. ENDOWMENT INCOME DISTRIBUTION POLICY

Duke utilizes the total return concept (income yield and appreciation) in the management of its endowment. Duke has implemented a spending policy designed to stabilize annual spending levels and preserve the real value of the endowment over time. In accordance with Duke's policy, a predetermined endowment spending rate consistent with Duke's total return objective has been established and approved by the Board of Trustees. Should endowment yields prove to be insufficient to support this policy, the balance is provided from capital gains. Should endowment yields exceed the amounts necessary to attain this objective, the balance is reinvested in the endowment. The endowment spending rate per unit is calculated at 5.5% of the average of the LTP unit market value for the previous three calendar year ends, subject to a 10.0% maximum annual growth in per-unit spending. The administration recommended and the Board of Trustees approved, a maximum annual growth in per-unit spending of 10.0% and 5.0% for the years ended June 30, 2008 (fiscal 2008) and 2007 (fiscal 2007), respectively. In addition, the Board approved a one-time 20.0% increase in the per unit spending for fiscal 2008, to compensate for the impact of imposing a 5.0% cap on the spending increase in prior years. The effective spending rate per unit as a percentage of the beginning of year market value was 5.2% and 4.4% for fiscal 2008 and fiscal 2007, respectively.

Income and realized gains and losses used for the annual distribution under the spending policy described above are reported as investment return included in operating revenues. Income and realized gains and losses on nonpooled endowment funds, any excess (deficiency) of income and realized gains earned over the distributed amount for pooled endowment funds, and unrealized gains and losses on endowment funds, are reported as nonoperating revenues.

Additionally, the Board of Trustees authorized the use of specific amounts of previously reinvested income, capital gains, and principal related to unrestricted funds functioning as endowment for special academic development initiatives and to support the operations and maintenance of certain facilities. The endowment distributions reported in the consolidated statements of activities include these supplemental endowment distributions. Supplemental endowment distributions were $66,947 and $30,740 in fiscal 2008 and fiscal 2007, respectively.

Duke also leverages investment returns to support operations through virtual equity dividends. These dividends are available for discretionary spending and are declared by the Executive Vice President under authority granted by the Board of Trustees, to transfer gains from certain non-endowed units of the LTP to the President's Strategic Initiative Fund, which supports a variety of strategic initiatives at Duke. Other investment income reported in the consolidated statements of activities includes these virtual equity dividends, which totaled $35,829 and $65,565 in fiscal 2008 and fiscal 2007, respectively.

H. DEPOSITS WITH BOND TRUSTEES

Deposits with bond trustees consist of debt service funds and the unexpended proceeds of certain bonds payable. These funds are invested in short-term, highly liquid securities and the unexpended proceeds referred to above will be used for construction of certain facilities or payment of debt service.

I. LAND, BUILDINGS, AND EQUIPMENT

Land, buildings, and equipment are stated at cost at date of acquisition or fair value at date of donation. Depreciation is calculated on the straight-line basis over the assets' estimated useful lives, except for leasehold improvements, which are amortized over the shorter of the expected useful life of the asset or term of the related lease. Useful lives range from 5 to 25 years for land improvements, 10 to 80 years for buildings and utilities, 3 to 20 years for equipment, motor vehicles, furniture and vessels, and 1 year for library acquisitions. Depreciation is not calculated on land, art collections, rare books, and construction in progress.

J. INTERESTS IN PERPETUAL TRUSTS HELD BY OTHERS

The University is the beneficiary of certain perpetual trusts held and administered by outside trustees, including The Duke Endowment (see Note 4). These trust assets are reported at fair value which approximates the present value of future income from these trusts. The related net assets are classified as permanently restricted. Income distributions from these trusts are recorded as investment return designated for current operations.

K. SPLIT-INTEREST AGREEMENTS

Duke's split-interest agreements with donors consist primarily of irrevocable charitable remainder trusts for which Duke serves as trustee. Assets held in these trusts are included in investments. Contribution revenues are recognized at the date the trusts are established after recording liabilities for the present value of the estimated future payments to be made to the donors or other beneficiaries. Annuity and other split-interest liabilities are adjusted annually at the end of each fiscal year.

L. INSURANCE

Insurance liabilities are recorded based upon the claim reserves considering historical claims experience, demographic factors, severity factors, expected trend rates and other actuarial assumptions. To mitigate a portion of its insurance risks, Duke maintains insurance for individual claims exceeding certain dollar limits. Provisions for estimated losses in excess of insurance limits are provided at the time such determinations are made. The reserves associated with the exposure to these liabilities, as well as the methods used in such evaluations, are reviewed by the administration for adequacy at the end of each reporting period and any adjustments are reflected in earnings.

M. REFUNDABLE FEDERAL STUDENT LOANS

Funds provided by the United States Government under the Federal Perkins, Nursing, and Health Professions Student Loan programs are loaned to qualified students and may be reloaned after collection. These funds are ultimately refundable to the government. The related balances of $34,740 and $33,839 at June 30, 2008 and 2007, respectively, are included in other liabilities on the consolidated balance sheet.

N. TUITION AND FEES

Student tuition and fees are recorded as revenue during the year that the related academic services are rendered. Student tuition and fees received in advance of services to be rendered are recorded as deferred revenue. Student aid provided by Duke for tuition and fees is reflected as a reduction of tuition and fee revenue. Student aid does not include payments made to students for services rendered to Duke.

O. SPONSORED RESEARCH

Research grants and contracts normally provide for the recovery of direct and facilities and administrative costs, subject to adjustment based upon review by the granting agencies. Duke recognizes grant and contract revenue as the related direct costs are incurred. The recovery of facilities and administrative costs is recognized based on predetermined rates negotiated with the federal government through the fiscal year ending June 30, 2009. Facilities and administrative cost recovery revenue for the academic and support divisions of Duke were $161,141 and $159,223 in fiscal 2008 and fiscal 2007, respectively.

P. AUXILIARY ENTERPRISES

Auxiliary enterprises, including residence halls, food services, retail stores, and the Duke University Telecommunications Center, furnish services to students, faculty, and staff. Fee charges are directly related to the costs of services rendered.

Q. INCOME TAXES

Duke is a tax-exempt organization as described in Section 501(c)(3) of the Internal Revenue Code of 1986, as amended (the Code). As such, Duke is exempt from federal income taxes to the extent provided under Section 501 of the Code. Accordingly, no provision for income taxes is made in the consolidated financial statements.

R. NEW ACCOUNTING PRONOUNCEMENTS

In September 2006, the FASB issued Statement No. 158 *"Employers' Accounting for Defined Benefit Pension and Other Postretirement Plans – an amendment of FASB Statements No. 87, 88, 106, and 132(R)"* (Statement No. 158). Statement No. 158 requires an entity to recognize the funded status of defined benefit pension and other postretirement plans as an asset or liability and to recognize changes in that funded status in the year in which changes occur through the statement of activities to the extent those changes are not included in the net periodic cost. Statement No. 158 also requires the measurement of plan assets and benefit obligations be determined as of the balance sheet date. Duke adopted the recognition and disclosure provisions of Statement No. 158 on June 30, 2007 and the measurement date provisions on June 30, 2008.

In June 2006, the FASB issued Interpretation No. 48, *"Accounting for Uncertainty in Income Taxes – an interpretation of FASB Statement 109"* (FIN 48). FIN 48 addresses the accounting for uncertainty in income taxes recognized in an entity's financial statements and prescribes a threshold of more-likely-than-not for recognition and derecognition of tax provisions taken or expected to be taken in a tax return. FIN 48 also provides guidance on measurement, classification, interest and penalties, and disclosure. FIN 48 was effective for Duke on July 1, 2007, and has no material impact on Duke's consolidated financial statements.

In September 2006, the FASB issued Statement No. 157, *"Fair Value Measurements"* (Statement No. 157). Statement No. 157 defines fair value, establishes a framework for the measurement of fair value, and enhances disclosures about fair value measurements. This statement does not require any new fair value measures. Statement No. 157 is effective for financial statements issued for fiscal years beginning after November 15, 2007. The administration is currently evaluating the impact Statement No. 157 will have on the consolidated financial statements beginning in fiscal 2009.

In February 2007, the FASB issued Statement No. 159 *"The Fair Value Option for Financial Assets and Financial Liabilities – including an amendment of FASB Statement No. 115"* (Statement No. 159). Statement No. 159 allows entities the irrevocable option to carry most financial assets and liabilities at fair value that are not currently required to be measured at fair value. Statement No. 159 is effective for financial statements issued for fiscal years beginning after November 15, 2007. The administration is currently evaluating the impact Statement No. 159 will have on the consolidated financial statements beginning in fiscal 2009.

In August 2008, the FASB issued FASB Staff Position 117-1, *Endowments of Not-for-Profit Organizations: Net Asset Classification of Funds Subject to an Enacted Version of the Uniform Prudent Management of Institutional Funds Act, and Enhanced Disclosures for All Endowment Funds* (FSP 117-1). FSP 117-1 provides guidance on the net asset classification of donor-restricted endowment funds for a nonprofit organization that is subject to an enacted version of the Uniform Prudent Management of Institutional Funds Act of 2006 (UPMIFA). The State of North Carolina has not yet enacted a version of UPMIFA. Should the State of North Carolina enact a version of UPMIFA in a future period, the administration of the University will need to interpret the relevant law. Based on this interpretation, the FSP could require significant reclassifications of some portion of donor-restricted endowment funds, from unrestricted funds, to temporarily restricted net assets. FSP 117-1 also requires additional disclosures about an organization's endowment funds, whether or not the organization is subject to UPMIFA. The disclosure requirements of FSP 117-1 will be effective for Duke in fiscal 2009.

S. PRIOR YEAR SUMMARIZED FINANCIAL INFORMATION

The consolidated financial statements include certain prior year summarized comparative information which does not include sufficient detail to constitute a full presentation in conformity with U.S. GAAP. Accordingly, such information should be read in conjunction with Duke's consolidated financial statements for fiscal 2007 from which the summarized information was derived.

T. USE OF ESTIMATES

The preparation of the consolidated financial statements in accordance with U.S. GAAP requires the use of estimates and assumptions that affect the reported amounts of assets, liabilities, revenues, and expenses during the reporting period as well as the disclosure of contingent assets and liabilities. Actual results ultimately could differ from the administration's estimates.

Significant items in Duke's consolidated financial statements subject to such estimates and assumptions include valuations for certain investments without readily determinable fair values, allowances for uncollectible accounts and contractual adjustments, reserves for employee healthcare and workers' compensation claims, accrued professional and general liability costs, estimated third-party settlements, and actuarially determined benefit liabilities related to Duke's pension and other postretirement benefit plans.

U. RECLASSIFICATIONS

Certain June 30, 2007 amounts have been reclassified to conform with changes in classifications adopted in fiscal 2008.

2. Duke University Health System, Inc. (DUHS)

The financial position and results of operations of DUHS are included in the consolidated financial statements herein using presentation generally followed by colleges and universities. DUHS consists of:

- **Duke University Hospital** – a tertiary care teaching hospital located on the campus of Duke in Durham, North Carolina, licensed for 943 acute care and specialty beds, leased from Duke, operated by DUHS, providing patient care and medical education, and performing clinical research.
- **Durham Regional Hospital** – a full-service community hospital located in Durham, North Carolina, licensed for 369 acute care beds, leased from Durham County, and operated by DUHS for an initial term of twenty (20) years commencing July 1, 1998.
- **Duke Raleigh Hospital** – a community hospital located in Raleigh, North Carolina, licensed for 186 acute care beds, leased from Duke, operated by DUHS, and providing patient care.
- **Duke HomeCare and Hospice (DHCH)** – having its principal offices in Durham, North Carolina and consisting of:
  - **Duke Home Infusion**, a full-range home infusion therapy program serving three (3) states that provides administration of intravenous medications in the patient's home.
  - **Duke Hospice**, providing hospice services in homes and long-term care facilities in nine (9) counties in central North Carolina and a six (6) bed inpatient facility in Hillsborough, North Carolina and offering a full range of bereavement services, including critical incident debriefings, to persons of all ages in central North Carolina who have suffered a loss due to death.
  - **Duke Home Health**, providing nursing, wound care, rehabilitation and home health aide services in patients' homes in central North Carolina.
- **Associated Health Services, Inc. (AHS)** – a North Carolina nonprofit corporation that operates an outpatient surgery facility located in Durham, North Carolina, licensed for eight (8) operating rooms, doing business as James E. Davis Ambulatory Surgical Center. During the term of the lease of Durham Regional Hospital, DUHS nominates and appoints a majority of the Board of Directors of AHS.
- **Duke University Affiliated Physicians, Inc. (DUAP)** – sixteen (16) primary care physician practices located in Durham, Alamance, Granville, Orange, Person, Vance, and Wake Counties, North Carolina, two (2) urgent care centers located in Durham County, and a pediatric practice with two (2) locations in Durham County.
- **Duke PRMO, LLC (Patient Revenue Management Organization) (PRMO)** – a limited liability company established to manage the clinical billing and accounts receivable activity of DUHS, the Private Diagnostic Clinic, PLLC (PDC) (see Note 3), and the Duke University School of Medicine (School of Medicine).

- **Durham Casualty Company, Ltd. (DCC)** – a wholly owned subsidiary of DUHS domiciled in Bermuda, insuring a portion of the medical malpractice risks and patient general liability risks of DUHS clinical providers and the PDC.
- **Health System Medical Strategies, Inc. (HSMS)** – a wholly-owned for-profit subsidiary of DUHS providing initial marketing support and health related management services at two regional continuing care retirement communities. HSMS provides these services on a fee basis.

DUHS presents certain components of income such as investment income and unrestricted gifts as nonoperating income in its consolidated statement of operations. These items are reclassified as operating income in the consolidated statement of activities herein to conform to financial statement presentation generally followed by colleges and universities.

3. The Private Diagnostic Clinic, PLLC (PDC)

The PDC is a professional limited liability company consisting of physicians practicing primarily within DUHS facilities and contiguous PDC clinics. The purpose of the PDC is to provide a structure independent from Duke in which the members of the physician faculty of the School of Medicine may engage in the private practice of medicine and still serve as members of the faculty of Duke conducting clinical teaching and medical research. Under a contract between the PDC and Duke, the PDC makes payments for nonprofessional services and employees supplied by Duke to the PDC, as rent for the PDC's use of space, and as payments for the goodwill and other benefits derived from the PDC's association with Duke. A substantial portion of the payments is used by Duke to support academic programs in the clinical departments of the School of Medicine. These payments totaled $64,112 and $65,761 for fiscal 2008 and fiscal 2007, respectively, and are recognized as revenue in grants, contracts and similar agreements in the consolidated statement of activities.

4. The Duke Endowment

Duke is the principal beneficiary of The Duke Endowment and receives substantial support in the forms of operating income and discretionary grants. Established in 1924 by James Buchanan Duke, The Duke Endowment is a charitable trust created to promote philanthropic purposes by making grants for educational, health care, child care, and religious purposes within North Carolina and South Carolina. Duke has no equity interest in the principal of the trust, which had a fair value of approximately $3.2 billion at June 30, 2008.

While Duke and The Duke Endowment have a common heritage, each having been founded through the generosity of James Buchanan Duke, they are two separate entities, each with its own purposes, officers, and trustees. The Duke Endowment is required by its indenture to distribute to Duke a certain amount of income from the Original Corpus, Corpus Item VIII and Corpus Item XI, subject to a limited right to withhold by The Duke Endowment trustees. Through June 30, 2008, this right has never been exercised. At June 30, 2008 and 2007, the portion of The Duke Endowment from which Duke derives unrestricted income had a fair value of $651,581 and $649,944, respectively, and is included in permanently restricted net assets on Duke's consolidated balance sheet. Total income distributions from The Duke Endowment were $12,499 and $11,877 for fiscal 2008 and fiscal 2007, respectively.

The Duke Endowment indenture provides for additional trustee discretion with respect to the disbursement of endowment income to beneficiaries other than Duke, and to Duke out of accounts other than the Original Corpus, Corpus Item VIII and Corpus Item XI. Duke received discretionary distributions from The Duke Endowment of $65,250 and $62,816 for fiscal 2008 and fiscal 2007, respectively. Such amounts are reflected as contribution revenue in the consolidated statement of activities.

On July 1, 2007, DUMAC was created to manage the investment assets of Duke and The Duke Endowment. Duke and The Duke Endowment are members of DUMAC, with Duke as a controlling member. In addition to its interest in DUMAC, the Duke Endowment owns a portion of an investment vehicle controlled by Duke. The Duke Endowment's share of these assets (predominately investments) and a corresponding liability for their minority interest is included on Duke's consolidated balance sheet, each totaling $191,917.

5. Contributions Receivable

Contributions receivable, net, are summarized as follows at June 30:

	2008	2007
Unconditional promises expected to be collected in:		
Less than one year	$ 147,647	$ 134,809
Between one year and five years	299,483	243,481
More than five years	11,836	10,795
	458,966	389,085
Less unamortized discount with interest rates ranging from 2.5% to 7.5%	(22,629)	(28,650)
Less allowance for uncollectible amounts	(13,841)	(13,063)
Total	$ 422,496	$ 347,372

The allowance for uncollectible pledges was calculated at 3.1% and 3.4% of gross outstanding pledges at June 30, 2008 and 2007, respectively. The methodology for calculating the allowance is based on the administration's review of individually significant outstanding pledges and analysis of the aging of payment schedules for all outstanding pledges.

At June 30, 2008 and 2007, Duke had also received bequest intentions and certain other conditional promises to give of approximately $48,037 and $43,946, respectively. These intentions and conditional promises to give are not recognized as assets or revenues on the consolidated financial statements. If the related funds are received, they will generally be restricted for specific purposes stipulated by the donors, primarily endowments for faculty support, scholarships, or general operating support of a particular department or division of Duke.

6. Land, Buildings, and Equipment

Land, buildings, and equipment, net, is summarized as follows at June 30:

	2008	2007
Land and land improvements	$ 181,914	$ 175,718
Buildings and utilities	2,681,156	2,543,020
Equipment, furniture and vessels	1,087,054	1,029,001
Library and art collections	294,307	277,601
Construction in progress	287,583	191,813
	4,532,014	4,217,153
Less accumulated depreciation	(2,237,664)	(2,051,906)
Total	$ 2,294,350	$ 2,165,247

Interest on borrowings to finance facilities is capitalized during construction, net of any investment income earned through the temporary investment of project borrowings. Total net interest expense of $3,773 and $8,967 was capitalized in fiscal 2008 and fiscal 2007, respectively.

Duke has identified conditional asset retirement obligations primarily related to the costs of asbestos removal and disposal that will result from future remediation activity. The liability was estimated using an inflation rate of 5.0% and discount rates ranging from 3.9% to 4.6%. The fair value liability for conditional asset retirement obligations recognized at June 30, 2008 and 2007 was $39,360 and $38,355, respectively. This liability is reported as a part of other liabilities on the consolidated balance sheet.

7. Investments

The fair value of investments consists of the following at June 30, 2008 and 2007:

	Long Term Pool	Non-Pooled Assets	2008 Total	2007 Total
Short-term investments	$ 213,267	$ 17,361	$ 230,628	$ 268,426
U.S. government securities	…	15,937	15,937	10,765
Real estate	723,057	2,340	725,397	509,861
Domestic bonds and long-term notes	…	33,438	33,438	42,939
Domestic stocks	319,701	83,248	402,949	355,128
International stocks	1,388,246	18,077	1,406,323	1,950,004
International bonds and long-term notes	110,004	2,261	112,265	97,479
Private investments	1,943,957	4,419	1,948,376	1,438,790
Hedged strategies	3,402,478	24,047	3,426,525	3,230,837
Hedged strategies-minority interest	…	191,917	191,917	…
Other investments	…	31,379	31,379	34,874
Total	$ 8,100,710	$ 424,424	$ 8,525,134	$ 7,939,103

Duke's investment activity for the years ended June 30 is detailed below:

	2008	2007
Net realized gains from sales of investments	$ 737,243	$ 689,330
(Decrease) increase in unrealized (depreciation) appreciation	(306,423)	867,194
Total net gain	430,820	1,556,524
Investment income	48,262	50,024
Total gains and income	479,082	1,606,548
Included in the consolidated statement of activities as investment return designated for current operations:		
Endowment spending	(232,850)	(149,045)
Investment income	(185,258)	(192,761)
Auxiliary enterprises	(1,200)	(3,549)
Investment return in excess of amounts designated for current operations	$ 59,774	$ 1,261,193

The total return for the LTP (in which 98.3% and 97.8% of Duke's endowment was invested at June 30, 2008 and 2007, respectively) for fiscal 2008 and fiscal 2007 was 6.2% and 25.6%, respectively, net of external management fees but before internal costs. The total return for Duke's endowment, as such, is not calculated. Duke's traditionally defined endowment and similar funds consist of the following:

	2008	2007
Permanent endowment funds, including accumulated gains	$ 3,373,442	$ 3,192,150
Funds functioning as endowment	1,998,622	1,966,132
Charitable remainder funds	101,176	97,656
Total	$ 5,473,240	$ 5,255,938

External management fees paid directly (i.e. segregated investment account fees) totaled $12,659 and $10,920, and internal management fees totaled $7,925 and $10,256 in fiscal 2008 and fiscal 2007, respectively.

Through an agreement with its primary investment custodian, the University participates in lending securities to brokers. Among other provisions that limit University risk, this agreement specifies that the custodian is responsible for managing strict borrower collateral requirements. Collateral generally is limited to cash, government securities, and irrevocable letters of credit. Depending on the type of securities being lent, minimum collateral ranges from 102% to 105% which requires daily marking-to-market. Both the investment custodian and security borrowers have the right to terminate a specific loan of securities at any time. Other than for an event of default, the investment custodian is prohibited from repledging or otherwise encumbering the pledged collateral in any fashion. The University receives lending fees and continues to earn interest and dividends on the loaned securities. The University has temporarily suspended its participation in this program. At June 30, 2008 and 2007, Duke held $0 and $70,114 of cash and cash equivalents as collateral under securities lending transactions. The collateral is included as an asset and the obligation to return such collateral is presented as a liability on the consolidated balance sheet. The securities on loan had an estimated fair value of $0 and $65,339 at June 30, 2008 and 2007, respectively.

8. Notes and Bonds Payable

Notes and bonds payable at June 30 consist of the following:

	2008	2007
Duke University Revenue Bonds: Tax-Exempt Bonds		
Series 1987 A – payable in 2017, with interest at a variable rate not to exceed 20.0% (actual interest rate at June 30, 2008 was 1.5%)	$ 18,900	$ 18,900
Series 1991 B – payable in 2021, with interest at a variable rate (actual interest rate at June 30, 2008 was 1.5%)	40,000	40,000
Series 1992 A – payable in 2027, with interest at a variable rate (actual interest rate at June 30, 2008 was 1.5%)	35,240	35,240
Series 2001 A – payable in installments of $6,135 in 2026, $6,645 in 2039 and $21,080 in 2041, with fixed interest rates of 5.1% and 5.3% (average interest rate for fiscal 2008 was 5.2%)	33,860	33,860
Series 2005 A – payable in installments of $15,000 in 2039 and $192,665 in 2041, with fixed interest rates of 4.5% and 5.0% (average interest rate for fiscal 2008 was 5.0%)	207,665	207,665
Series 2006 A – payable in installments ranging from $1,270 to $220,560 through 2044, with fixed interest rates ranging from 4.0% to 5.0% (average interest rate for fiscal 2008 was 4.9%)	382,010	383,290
Series 2006 B – payable in 2042, with fixed interest rates ranging from 4.3% to 5.0% (average interest rate for fiscal 2008 was 4.5%)	128,435	128,435
Duke University Taxable Bonds:		
Series 2007 A – payable in 2037, with a fixed interest rate of 5.9% (average interest rate for fiscal year 2008 was 5.9%)	200,000	…
Duke University Health System, Inc. Revenue Bonds:		
Series 1985 B – payable in 2015, with interest at a variable rate not to exceed 20.0% (actual interest rate at June 30, 2008 was 1.5%)	43,500	43,500
Series 1993 A – payable in 2023, with interest at a variable rate (actual interest rate at June 30, 2008 was 1.5%) (see Note 13)	28,650	28,650
Series 1996 C – payable in installments ranging from $2,458 to $2,614 through 2010, with fixed interest rates varying from 5.6% to 5.7% (average interest rate for fiscal 2008 was 5.7%)	5,072	7,867
Series 1998 A – payable in installments ranging from $2,295 to $2,395 through 2010, with fixed interest rates varying from 4.6% to 4.7% (average interest rate for fiscal 2008 was 4.6%)	$ 4,690	$ 6,885
Series 1998 B – payable in installments ranging from $5,355 to $5,590 through 2010, with fixed interest rates varying from 4.4% to 5.1% (average interest rate for fiscal 2008 was 4.7%)	10,945	16,070
Series 2005 A, B, and C – payable in installments ranging from $6,210 to $11,240 from 2016 through 2028, with interest at a variable rate not to exceed 12.0% (actual interest rate at June 30, 2008 was 1.5%) (see Note 13)	322,140	322,140
Series 2006 A, B, and C – payable in installments ranging from $5,000 to $12,755 from 2011 through 2039, with interest at a variable rate not to exceed 15.0% (actual interest rate at June 30, 2008 was 1.9%)	150,715	150,715
Notes Payable:		
Taxable commercial paper note program ($200,000 authorized) and tax-exempt bond anticipation program ($300,000 authorized):		
Taxable issue, weighted average maturity and interest rate at June 30, 2008 of 37.2 days and 2.5%, respectively	13,248	55,047
Tax-exempt issue, weighted average maturity and interest rate at June 30, 2008 of 55.5 days and 1.6%, respectively	77,573	39,091
Note payable due in 2013 with interest at a variable rate of LIBOR plus 0.6% (actual interest rate at June 30, 2008 was 3.1%)	25,000	25,000
Note payable due in 2014 with interest at a variable rate of LIBOR plus 0.6% (actual interest rate at June 30, 2008 was 3.1%)	6,725	6,900
Various notes and capital leases	19,522	23,015
Total notes and bonds payable	1,753,890	1,572,270
Unamortized premium	20,771	21,126
Net notes and bonds payable	$1,774,661	$1,593,396

As of June 30, 2008 and 2007, Duke had a letter of credit agreement for $95,000 and $50,000, respectively. As of June 30, 2008 and 2007, there were no outstanding borrowings under the letter of credit agreement.

Aggregate maturities of notes and bonds payable (excluding commercial paper) from 2009-2013 are $11,534, $11,783, $15,085, $15,345, and $16,020, respectively.

Duke capitalizes and amortizes the original issue premium and issue costs related to applicable bond issues in a manner which approximates the interest method. At June 30, 2008 and 2007, unamortized bond issue costs of $7,519 and $7,907, respectively, are included in prepaid expenses, deferred charges and inventories on Duke's consolidated balance sheet. Additionally, unamortized original issue premium on related bonds of $20,771 and $21,126, respectively, is included in notes and bonds payable on Duke's consolidated balance sheet. Total amortization expense for issue costs and premiums was $34 and $243 for fiscal 2008 and fiscal 2007, respectively.

Duke had $6,380 at June 30, 2008 and 2007 in a mandatory debt service reserve fund designated to meet scheduled principal and interest payments on the Series 1985B DUHS Revenue Bonds. This amount is included in deposits with bond trustees on the accompanying consolidated balance sheet.

In November 2007, the University issued Series 2007A taxable bonds in the amount of $200,000. The Series 2007A bond proceeds were used to fund various projects.

In January 2007, the University issued Series 2006B bonds in the amount of $128,435. The University's Series 2006B bonds were used to refund the Series 2002A bonds ($121,000).

In November 2006, the University issued Series 2006A bonds in the amount of $383,290. A portion of the University's Series 2006A bonds was used to refund the Series 1996B ($16,485) and Series 2001A ($144,480) bonds.

In November 2006, DUHS issued the Series 2006 A, B, and C bonds in the aggregate amount of $150,715 in order to refund the line of credit borrowings and finance certain capital improvements. The individual series amounts are $65,355 for 2006A, $65,360 for 2006B, and $20,000 for 2006C.

The refundings referenced above meet the legal requirements for defeasance of the bond liability. Therefore, neither the escrow nor the refunded bonds are included on the consolidated balance sheet at June 30, 2008 and 2007. The refunding transactions related to the University's November 2006 and January 2007 issuances resulted in a loss on extinguishment of debt of $17,778, which was included in other operating expenses in the consolidated statement of activities for fiscal 2007. The loss represents the write off of unamortized bond issue costs and discount on bonds payable related to the refunded bonds and the escrow funding requirements for principal and interest in excess of the face value of the bonds refunded. Total defeased obligations were $265,480 and $486,825 at June 30, 2008 and 2007, respectively.

Trust indentures underlying the Duke University Health System Revenue Bonds and the Duke University Health System Taxable Bonds contain certain covenants and restrictions.

9. Pension and Other Postretirement Benefit Plans

Faculty and staff members of Duke are eligible to participate in a contributory defined contribution pension plan. For fiscal 2008 and fiscal 2007, Duke contributed $85,608 and $77,785, respectively, to this plan. Duke expects to contribute $94,951 to this plan in fiscal 2009.

In addition, Duke has a noncontributory defined benefit pension plan for substantially all full-time non-exempt employees. Pension income for this plan for fiscal 2008 and fiscal 2007 amounted to $15,822 and $2,959, respectively. This income resulted primarily from the expected return on plan assets in excess of service and interest cost. The benefit for this plan is based on years of service and the employee's compensation during the last ten (10) years of employment. Duke does not expect to contribute to this plan in fiscal 2009.

The following table summarizes the allocation of assets available for plan benefits for the defined benefit pension plan at June 30:

	2008	2007
Short-term investments	10.6%	4.7%
Real estate	6.9	5.9
Domestic stocks	4.1	3.4
International stocks	14.8	27.1
International bonds and long-term notes	1.5	1.4
Private investments	22.1	17.1
Hedged strategies	40.0	40.4
Total	100.0%	100.0%

The pension plan's funded status allows an investment strategy that focuses on maximizing total return and places limited emphasis on liability matching and no emphasis on generating income. Over the long term, the plan's average asset allocation target is 40% global equity, 25% hedged strategies, 24% private investments (includes private equity and real estate), 10% fixed income, and 1% cash. The plan's diversification offers the expectation of higher and more stable returns.

At June 30, 2008 and 2007, the accumulated benefit obligation for the pension benefits was $651,759 and $622,417, respectively, which is less than the fair market value of the plan assets of $1,302,981 and $1,159,088 (as of the measurement date). At June 30, 2008 and 2007, the plan is over funded in relation to accumulated benefits by $651,222 and $536,671, respectively.

The pension benefits expected to be paid in each year from 2009-2013 are $25,741, $27,035, $29,132, $31,688, and $34,710, respectively. The aggregate benefits expected to be paid in the five years from 2014-2018 are $231,744. The expected benefits to be paid are based on the same assumptions used to measure the University's benefit obligation at June 30 and include estimated future employee service.

Duke also sponsors an unfunded, defined benefit postretirement medical plan that covers all full time employees who elect coverage and satisfy the plan's eligibility requirements when they retire. The plan is contributory with retiree contributions established as a percentage of the total cost for retiree health care and for the health care of their dependents. Duke pays all benefits on a current basis. Employees hired after June 30, 2002 are not eligible for DUHS contributions to the cost of this benefit and must bear the full cost themselves if elected at retirement. As a healthcare provider, Duke utilizes an incremental cost approach to determine its liability for the postretirement medical plan. The total liability reflects estimated additional costs to provide healthcare benefits to retirees within DUHS facilities plus the full cost to provide healthcare benefits to retirees at facilities other than DUHS.

The postretirement benefits expected to be paid in each year from 2009-2013 are $8,141, $9,290, $10,494, $11,581, and $12,524, respectively. The aggregate benefits expected to be paid in the five years from 2014-2018 are $77,813. The expected benefits to be paid are based on the same assumptions used to measure the University's benefit obligation at June 30 and include estimated future employee service. The Medicare retiree drug subsidy expected to be received in each year from 2009-2013 is $1,860, $2,122, $2,427, $2,768, and $3,222, respectively. The aggregate subsidies expected to be received in the five years from 2014-2018 are $23,899.

The measurement date for both the defined benefit pension plan and the postretirement health benefit plan is June 30 for fiscal 2008 and March 31 for fiscal 2007.

The following tables provide a reconciliation of the changes in the plans' projected benefit obligations and fair value of assets:

	Pension Benefits		Postretirement Benefits	
	2008	2007	2008	2007
Reconciliation of benefit obligation				
Obligation at July 1	$ 701,373	$ 652,893	$ 145,220	$ 131,973
Service cost	31,122	30,375	2,246	2,484
Interest cost	39,573	36,849	8,253	7,431
Actuarial (gain) loss	(24,822)	6,136	(9,373)	10,028
Measurement date change	17,299	…	2,625	…
Benefit payments	(33,821)	(23,380)	(9,531)	(7,069)
Retiree drug subsidy payments	…	…	3,482	373
Administrative expenses (estimated)	(1,500)	(1,500)	…	…
Obligation at June 30	$ 729,224	$ 701,373	$ 142,922	$ 145,220
Reconciliation of fair value for plan assets				
Fair value of plan assets at July 1	$ 1,159,088	$ 995,262	$ …	$ …
Actual return on plan assets	179,726	183,462	…	…
Employer contributions	…	4,974	…	…
Participant contributions	140	113	…	…
Benefit payments	(33,821)	(23,380)	…	…
Administrative expenses	(2,152)	(1,343)	…	…
Fair value of plan assets at measurement date	$ 1,302,981	$ 1,159,088	$ …	$ …
Funded status				
Net amount recognized (accrued benefit liability)	$ 573,757	$ 457,715	$ (142,922)	$ (145,220)

The following table provides the components of net periodic benefit cost (credit) for the plans for fiscal 2008 and fiscal 2007:

	Pension Benefits		Postretirement Benefits	
	2008	2007	2008	2007
Service cost	$ 31,122	$ 30,375	$ 2,246	$ 2,484
Interest cost	39,573	36,849	8,253	7,431
Expected return on plan assets	(77,706)	(66,908)	…	…
Amortization of prior-service cost (asset)	3,446	3,446	(1,683)	(1,800)
Expected participant contributions	(117)	(124)	…	…
Recognized actuarial gain	(12,140)	(6,597)	(4,408)	(7,401)
Net periodic benefit (credit) cost	$ (15,822)	$ (2,959)	$ 4,408	$ 714

The prior-service costs are amortized on a straight-line basis over the average remaining service period of active participants. The expected amortization of prior-service cost (asset) for fiscal 2009 is $3,446 and ($1,596) for the pension benefits and postretirement benefits, respectively. Unrecognized prior-service cost (asset) were $16,699 and ($11,259) and unrecognized actuarial gains were $545,190 and $71,408 for the pension benefits and postretirement benefits, respectively, as of June 30, 2008.

The assumptions used in the measurement of Duke's benefit obligation and benefit cost are shown in the following table:

	Pension Benefits				Postretirement Benefits			
	2008		2007		2008		2007	
Weighted average assumptions as of measurement date	Obligation	Cost	Obligation	Cost	Obligation	Cost	Obligation	Cost
Discount rate	6.50%	5.75%	5.75%	5.75%	6.50%	5.75%	5.75%	5.75%
Expected return on plan assets	N/A	8.50%	N/A	8.50%	N/A	N/A	N/A	N/A
Rate of compensation increase	3.50%	3.50%	3.50%	3.50%	N/A	N/A	N/A	N/A

The expected return on pension plan assets is established at an amount that reflects the targeted asset allocation and expected returns for each component of the plan assets. The expected return was developed using a stochastic forecast model of inflation expectations and long-term real expected returns for each asset class. The result was reduced by 1.0% to reflect medium-term expectations and survey data for similar plans. The rate is reviewed annually and adjusted as appropriate to reflect changes in the expected market performance or in targeted asset allocation ranges.

In order to determine the benefit obligation as of June 30, 2008, an 8.0% annual rate of increase in the per capita costs of covered health care benefits was assumed, decreasing to an ultimate annual rate of increase of 5.0%. The benefit expense for fiscal 2008 was driven by the rates used to determine the obligation at June 30, 2007, which were 9.0% decreasing to an ultimate rate of 5.0%.

Assumed health care cost trend rates have a significant effect on the amounts reported for the health care plans. A 1.0% change in assumed health care cost trend rates would have the following effect:

	1.0% Increase	1.0% Decrease
Effect on total of service and interest cost components of net periodic postretirement health care benefit cost	$ 1,659	$ (1,341)
Effect on the health care component of the accumulated postretirement benefit obligation	$ 22,201	$ (18,083)

Duke currently provides postemployment medical and life insurance benefits to former employees receiving long-term disability income benefits. The consolidated balance sheet includes a liability of $16,685 and $13,027 for this accrued postemployment benefit cost as of June 30, 2008 and 2007, respectively.

10. Change in Accounting Principle

On June 30, 2007, Duke adopted the recognition and disclosure provisions of FASB Statement No. 158 (see Note 1(R)). The incremental effects of applying the recognition provisions of Statement No. 158 on Duke's financial position as of June 30, 2007 follow:

	Before application of Statement No. 158	Adjustments	After application of Statement No. 158
Prepaid pension asset	25,487	432,228	457,715
Postretirement and postemployment benefit obligation	(226,105)	80,885	(145,220)
Total net assets	9,516,051	513,113	10,029,164

Statement No. 158 also requires that the assumptions used in measuring the annual pension and postretirement expense be determined as of the balance sheet date. Duke adopted the measurement date provisions of Statement No. 158 on June 30, 2008. Accordingly, the measurement date was changed from March 31 to June 30 in 2008, with the following incremental effects on Duke's financial position.

	Before application of Statement No. 158	Adjustments	After application of Statement No. 158
Prepaid pension asset	569,803	3,954	573,757
Postretirement and postemployment benefit obligation	(141,797)	(1,125)	(142,922)
Total net assets	10,521,412	2,829	10,524,241

11. Net Assets

Temporarily restricted net assets consist of the following at June 30:

	2008	2007
Contributions for physical plant	$ 16,304	$ 20,551
Contributions for instruction, research and divisional support	233,959	145,865
Temporarily restricted net assets	$ 250,263	$ 166,416

Permanently restricted net assets consist of the following at June 30:

	2008	2007
Permanent endowment funds with income restricted for instruction, research and student aid	$ 1,227,094	$ 1,104,878
Contributions receivable for permanent endowment funds, net	184,081	188,448
Interests in perpetual trusts held by others	751,680	751,998
Annuity and other split-interest agreements	11,580	9,745
Student loan funds	16,374	15,867
Permanently restricted net assets	$ 2,190,809	$ 2,070,936

12. Fair Value of Financial Instruments

The carrying amounts of cash and cash equivalents, patient receivables, and other receivables approximate fair value because of the terms and relatively short maturity of these financial instruments. Contributions receivable and annuity and other split-interest obligations carrying amounts approximate fair value because these instruments are recorded at net present value. Investments, deposits with bond trustees, and interests in perpetual trusts held by others are reported at fair value as of the date of the consolidated financial statements. The carrying amount of student loans receivable under Duke loan programs approximates fair value, due to the rates and the relative short-term nature of the loans.

The carrying amounts of accounts payable, accrued payroll and employee withholdings, and related accruals approximate fair value because of the relatively short maturity of these financial instruments. The carrying amount of notes and bonds payable with variable interest rates approximates fair value because the variable rates reflect current market rates for bonds with similar maturities and credit quality. The fair value of notes and bonds payable with fixed interest rates is based on rates assumed to be currently available for bond issues with similar terms and average maturities. The estimated fair value and carrying amount of these fixed rate bonds payable at June 30, 2008 approximated $980,558 and $972,677, respectively. The estimated fair value and carrying amount of these bonds payable at June 30, 2007 approximated $798,660 and $784,072, respectively.

13. Derivative and Other Financial Instruments

Duke has executed derivative financial instruments in the normal course of its business, but does not use them for trading purposes. Duke has six (6) interest rate swap agreements that are designed to synthetically increase or decrease the variable rate exposure associated with its portfolio of debt. In addition, Duke has one (1) basis swap agreement designed as a hedging technique to reduce the interest rate risk on variable rate indebtedness by utilizing the spread between the yield curves for taxable debt securities and tax-exempt municipal debt securities.

The following table summarizes the general terms for each of Duke's swap agreements:

	August 1993 Interest Rate Swap	November 2004 Interest Rate Swap	March 2005 Interest Rate Swap[3]	October 2005 Interest Rate Swap	November 2005 Interest Rate Swap	April 2007 Interest Rate Swap	July 2001 Basis Swap
Effective Date	August 5, 1993	November 18, 2004	May 19, 2005	December 1, 2006	November 15, 2005	April 1, 2009	July 6, 2001
Associated variable rate debt	Series 1993A	Portfolio	Series 2005	N/A	N/A	Portfolio	N/A
Term	30 year	3 year	23 year	7 year	8 year	30 year	20 year
Notional amount	$28,650	$25,000	$322,140	$7,000	$25,000[5]	$200,000	$400,000
Rate Duke receives	SIFMA[1]	3.44%	61.52% of one-month LIBOR[2] plus 0.28%	One-month LIBOR[2] plus 0.60%	One-month LIBOR[2] plus 0.60%	67% of one-month LIBOR[2]	72.125% of one-month LIBOR[2]
Rate Duke pays	5.09%	One-month LIBOR[2]	3.60%	5.63%	5.10%	3.67%	SIFMA[1]
Collateral provisions	100% of Liability if >$500	Combined[4]	Combined[4]	N/A	N/A	Combined[4]	Combined[4]

The fair value of each swap is the estimated amount Duke would receive or pay to terminate the swap agreement at the reporting date, taking into account current interest rates and the current creditworthiness of the swap counterparties. The net fair value is included in other liabilities at June 30, 2008 and prepaid expenses, deferred charges and inventories at June 30, 2007. The change in fair value is included as a gain or loss in other nonoperating activities on the consolidated statement of activities. The net settlement amount incurred on the swaps is included in operating income on the consolidated statement of activities. The collateral to support the swaps is included in investments on the consolidated balance sheet.

The related financial information on each of these instruments is as follows:

	2008			2007		
	Fair Value	Gain (Loss)	Collateral Deposit	Fair Value	Gain (Loss)	Collateral Deposit
August 1993 Interest Rate Swap	$ (4,063)	$ (1,459)	$ 3,222	$ (2,604)	$ (470)	$ 3,013
November 2004 Interest Rate Swap[6]	N/A	185	…	(185)	557	…
March 2005 Interest Rate Swap	(13,488)	(19,494)	…	6,006	(978)	…
October 2005 Interest Rate Swap	(294)	(427)	…	133	(62)	…
November 2005 Interest Rate Swap	(466)	(1,617)	…	1,151	(374)	…
April 2007 Interest Rate Swap	(7,402)	(11,008)	…	3,606	3,606	…
July 2001 Basis Swap	(8,434)	(8,300)	…	(134)	6,673	…
Total	$ (34,147)	$ (42,120)	$ 3,222	$ 7,973	$ 8,952	$ 3,013

Duke is exposed to interest rate risk driven by factors influencing the spread between the taxable and tax-exempt market interest rates on its basis swap.

In addition, investment strategies employed by DUMAC incorporate the use of various derivative financial instruments with off balance sheet risk. DUMAC uses these instruments for a number of investment purposes, including hedging or altering exposure to certain asset classes and cost-effectively adding exposures as required under DUMAC policy to portions of the portfolio. Positions are expected to create gains or losses that, when combined with the applicable portion of the total investment portfolio, provide an expected result. Such financial instruments as of June 30, 2008 and 2007 had a fair value of ($19,055) and ($23,974), and a notional value of $1,259,084 and $2,094,555, respectively, and are recorded at fair value within investments.

Duke is exposed to financial loss in the event of nonperformance by a counterparty to any of the financial instruments described above. General market conditions could impact the credit standing of the counterparties and, therefore, potentially impact the value of the instruments on Duke's consolidated balance sheet. Duke controls this counterparty credit risk by considering the credit rating, business risk, and reputation of any counterparty before entering into a transaction, monitoring for any change in the credit standing of its counterparty during the life of the transaction, and requiring collateral be posted when predetermined thresholds are crossed.

[1] SIFMA represents the Securities Industry and Financial Markets Association Municipal Swap Index. Formerly known as the BMA Municipal Swap Index, SIFMA is the interest rate index used as a basis for repricing the Series 1993A variable rate bonds and is one of the indices of the July 2001 Basis Swap.
[2] LIBOR represents the London Interbank Offered Rate.
[3] Forward–starting floating-to-fixed interest rate swap.
[4] Duke and the counterparty are required to post collateral for combined fair value liability amounts in excess of $40,000 with regard to the November 2004, March 2005, April 2007 and July 2001 swaps.
[5] Original swap's effective date was June 2003, and had a notional value at June 30, 2005 of $15,000. This swap was revised effective November 15, 2005 with the terms outlined above.
[6] Expired November 2007.

In addition, DUMAC employs investment managers that enter Duke into derivative transactions including futures, options, swaps, and exchange contracts to obtain positions in a variety of domestic and international markets including equity, fixed income, commodities, currencies, interest rates, and indices. Such financial instruments as of June 30, 2008 and 2007 had a fair value of ($66,089) and ($96,770) and a notional value of $936 and $167,991, respectively and are recorded as investments in the consolidated balance sheet.

14. Functional Expenses

Expenses are reported in the consolidated statement of activities in natural categories. Functional expenses for fiscal 2008 and fiscal 2007 were categorized as follows:

	2008	2007
Instruction and departmental research	$ 683,297	$ 612,437
Sponsored and separately budgeted research	632,882	610,954
Health care services	1,290,544	1,216,124
Libraries	38,522	40,302
Student services	49,357	45,326
General administration	628,244	579,579
Student aid	37,284	32,127
Auxiliary enterprises	170,079	153,926
Other	167,391	183,769
Total operating expenses	$ 3.697,600	$ 3,474,544

Functional expenses are shown in categories recommended by the National Association of College and University Business Officers. Duke's primary program services are instruction and departmental research, sponsored and separately budgeted research, and health care services. Expenses reported as libraries, student services, general administration, student aid, and auxiliary enterprises are incurred in support of these primary program services.

Plant operation and maintenance expense is allocated to program and supporting activities based upon periodic assessment of facilities usage. Total amounts allocated in fiscal 2008 and fiscal 2007 were $89,769 and $115,676, respectively.

15. Concentration on Credit Risk

DUHS grants credit without collateral to its patients, most of whom are insured under third-party payor agreements.

16. Commitments and Contingencies

A. CONSTRUCTION AND PURCHASE COMMITMENTS

At June 30, 2008 and 2007, open contracts for the construction of physical properties amounted to $116,104 and $84,593, respectively, and outstanding purchase orders for normal operating supplies and equipment amounted to $30,666 and $29,741, respectively.

B. OPERATING LEASES

Duke leases various machinery, equipment and office space under operating leases expiring at various dates through December 2021. Total rental expense in fiscal 2008 and fiscal 2007 for all operating leases was $54,086 and $47,724, respectively.

Future minimum lease payments under noncancelable operating leases as of June 30, 2008 are as follows:

Year	
2009	$ 60,625
2010	53,773
2011	44,724
2012	40,088
2013	67,334
Thereafter	185,752
Total minimum operating lease payments	$ 452,296

C. INVESTMENT COMMITMENTS

Duke is obligated under certain investment fund agreements to periodically advance additional funding up to specified levels. At June 30, 2008, Duke had future commitments of $2,275, which are likely to be called through 2013.

D. MEDICAL MALPRACTICE COVERAGE

DCC (see Note 2) insures a portion of the medical malpractice risks and patient general liability risks of DUHS clinical providers and the PDC. The assets, liabilities, and results of operations for DCC have been reflected in the unrestricted net assets of Duke. For fiscal 2008 and fiscal 2007, DCC issued policies of insurance to its insureds with policy limits of $110,000 and $70,000 respectively. DCC reinsures with various commercial carriers amounts in excess of $7,000 per claim, subject to a buffer retention of $3,000 in excess of $7,000 DCC retention. This functions as a deductible whereby DCC pays the first $3,000 (aggregate) in excess of the $7,000 per claim retention, after which claim amounts in excess of the $7,000 are covered by reinsurance. Effective July 1, 2008, the total policy limits issued by DCC will be $110,000.

Estimated professional liability costs represent the estimated cost of professional liability in 2008 and 2007 for reported claims incurred in the DCC program. DCC evaluates its estimated professional liability on a discounted actuarial basis. The discount rate at June 30, 2008 and 2007 is 4.5%. Accrued professional liability costs as of June 30, 2008 and 2007 amounted to approximately $67,371 and $94,540, respectively. Investments and other receivables in this amount have been designated by DUHS to settle these claims. Also included in estimated professional liability costs are estimated claims incurred but not reported related to DUHS in the amounts of $8,872 and $8,424 as of June 30, 2008 and 2007, respectively.

The estimated liability for professional and general liability claims will be significantly affected if current and future claims differ from historical trends. While the administration monitors reported claims closely and considers potential outcomes as estimated by its actuaries when determining its professional and general liability accruals, the complexity of the claims, the extended period of time to settle the claims and the wide range of potential outcomes complicate the estimation. In the opinion of the administration, adequate provision has been made for the related risk.

Professional liability risk of DUHS entities for time periods not included in the DCC program is generally covered by commercial policies.

E. SELF-INSURANCE

Duke provides employee healthcare benefits, long-term disability benefits, unemployment benefits, and workers' compensation benefits primarily though employer contributions, participant contributions, and excess loss insurance, and manages those programs through third-party administrators. In the opinion of the administration, adequate provision has been made for the related risks within accrued payroll and employee withholdings or accrued postretirement/postemployment and other benefit obligations on Duke's consolidated balance sheet.

F. LITIGATION

Duke is involved in various legal actions occurring in the normal course of activities. While the final outcomes cannot be determined at this time, the administration is of the opinion that the resolution of these matters will not have a material adverse effect on Duke's financial position.

Laws and regulations governing Medicare and Medicaid programs are complex and subject to interpretation. DUHS, in part through its compliance program, seeks to ensure compliance with such laws and regulations, and to rectify instances of noncompliance with governmental program (Medicare, Medicaid and Tricare) rules. DUHS believes that it is in compliance with all applicable laws and regulations and is not aware of any pending or threatened investigations involving allegations of potential wrongdoing that would have a material effect on Duke's consolidated financial statements. Compliance with such laws and regulations is subject to future government review and interpretation as well as significant regulatory action, including fines, penalties and exclusion from the Medicare and Medicaid programs.

G. GOVERNMENT BILLING

In May 2006, DUHS voluntarily identified to the federal government concerns about compliance related to billing for services rendered to participants in clinical trials. This matter was resolved in fiscal 2008 without a material impact on the consolidated financial statements.

17. Conflicts of Interest Transactions

Members of Duke's governing boards and senior administration may, from time to time, be associated, either directly or indirectly, with companies doing business with Duke. For members of the senior administration, Duke requires annual disclosure of significant financial interests in, or employment or consulting relationships with, entities doing business with Duke. These annual disclosures cover both the members of the senior administration and their immediate family members. When such relationships exist, measures are taken to appropriately manage the actual or perceived conflict in the best interests of Duke. There are written conflict of interest policies for both the University and DUHS that require, among other things, that no member of a governing board may participate in any decision in which he or she (or an immediate family member) has a material financial interest. Each governing board member is required to certify compliance with the conflict of interest policy on an annual basis and indicate whether Duke does business with an entity in which that member (or an immediate family member) has a material financial interest. When such relationships exist, measures are taken to mitigate any actual or perceived conflict, including requiring that such transactions be conducted at arm's length, for good and sufficient consideration, based on terms that are fair and reasonable to and for the benefit of Duke, and in accordance with applicable conflict of interest laws. No such associations that have been disclosed are considered to be significant.

18. Subsequent Events

A. DUMAC LINE OF CREDIT

Subsequent to June 30, 2008, DUMAC executed a promissory note that would provide short-term working capital to the LTP, as needed. The promissory note, dated September 8, 2008, provides a line of credit not to exceed $250,000. The line of credit carries interest on any unpaid principal balance at the LIBOR Market Index Rate plus 0.55%. The promissory note is due and payable in full, including any outstanding principal and accrued interest, on September 6, 2009 or at any time prior within 30 days of demand.

B. REMARKETING OF CERTAIN DUHS VARIABLE RATE BONDS

Subsequent to June 30, 2008, illiquidity in the marketplace has impacted the ability to remarket certain DUHS variable rate bonds. As of October 2, 2008, certain Series 2005 A, B, and C bonds in the aggregate amount of $185,360 have been, or are in the process of being, converted to Bank Bonds under the liquidity facilities. The Bank Bonds carry interest at the prime rate (5% as of October 2, 2008) and increase an additional 2% should the Bank Bonds remain outstanding beyond 180 days. The Bank Bonds are subject to mandatory redemption one year from issuance. DUHS expects to be able to remarket the original bonds and retire the Bank Bonds upon stabilization of the market.

Schedule of Expenditures of Federal and State
Awards and OMB Circular A-133 Reports

DUKE UNIVERSITY

Schedule of Expenditures of Federal and State Awards

Year ended June 30, 2008

Federal and state grantors/pass-through grantors/agencies or cluster title	Federal CFDA number or other identifying grant number	Pass-through entity identifying number	Expenditures
Federal Award Expenditures:			
Research and Development Cluster:			
Department of Health and Human Services:			
National Institutes of Health	93.RD	—	$ 373,110,305
Administration for Children and Families	93.RD	—	41,487
Agency for Health Care Policy and Research	93.RD	—	1,996,259
Agency for Healthcare Research and Quality	93.RD	—	971,832
Centers for Disease Control and Prevention	93.RD	—	1,861,648
Substance Abuse and Mental Health Services Administration	93.RD	—	554,336
Health Resources and Services Administration	93.RD	—	2,248,776
Food and Drug Administration	93.RD	—	852,663
Pass-through programs from:			
Advanced Liquid Logic	93.RD	—	84,584
Albert Einstein University	93.RD	—	31,610
American College of Oncology Group	93.RD	—	(17,934)
American College of Radiology	93.RD	—	(6,038)
American College of Radiology Imaging Network	93.RD	—	19,174
American Institute for Research	93.RD	—	63,632
Association for Prevention Teaching & Research	93.RD	—	12,676
Association of American Medical Colleges	93.RD	—	68
Association of Teachers of Preventive Medicine	93.RD	—	34,206
Axio Research Corporation	93.RD	—	103,989
Baylor College of Medicine	93.RD	—	74,217
Baylor Research Institute	93.RD	—	27
Bionix Development Corporation	93.RD	—	177,480
Booz Allen Hamilton, Inc.	93.RD	—	1,573,931
Boston University	93.RD	—	277,453
Butler Hospital	93.RD	—	71,526
Case Western Reserve University	93.RD	—	46,011
Center to Protect Workers' Rights	93.RD	—	165,752
Children's Hospital Research Foundation	93.RD	—	11,521
Children's Hospital and Regional Medical Center	93.RD	—	2,838
Cleveland Clinic Lerner College of Medicine of CWRU	93.RD	—	2,874
Cognosci, Inc.	93.RD	—	16,619
Collagen Matrix, Inc.	93.RD	—	(4,415)
Columbia University	93.RD	—	(138,097)
Constella Group, LLC	93.RD	—	134,404
Dana-Farber Cancer Institute	93.RD	—	433,630
Drexel University	93.RD	—	(71)
East Carolina University	93.RD	—	134,605
EMMES Corporation	93.RD	—	6,661
Emory University	93.RD	—	44,962
Feinstein Institute for Medical Research	93.RD	—	469,911
Fred Hutchinson Cancer Research Center	93.RD	—	1,368,270
Foundation for the National Institutes of Health	93.RD	—	88,116
Genetech, Inc.	93.RD	—	32,709
Genognomon, LLC	93.RD	—	525
Georgetown University	93.RD	—	(67,421)
H. Lee Moffitt Cancer Center and Research Institute, Inc.	93.RD	—	171,965
Health Research, Inc.	93.RD	—	4,640
Heart Imaging Technologies, LLC	93.RD	—	131,725
Immune Deficiency Foundation	93.RD	—	20,510
Indiana University	93.RD	—	237,986
Iowa State University	93.RD	—	55,810
Jackson Laboratory	93.RD	—	35,490
Jackson State University	93.RD	—	107,464
JAEB Center for Health Research	93.RD	—	21,605
Johns Hopkins University	93.RD	—	471,288
KAI, Inc.	93.RD	—	80,636
Macro International, Inc.	93.RD	—	133,608
Maryland Medical Research Institute	93.RD	—	(807)
Massachusetts General Hospital	93.RD	—	757,590
Mayo Foundation	93.RD	—	58,874
McKing Consulting Company	93.RD	—	19,646
Medical College of Georgia	93.RD	—	16,248
Medical University of South Carolina	93.RD	—	92,198

(Continued)

DUKE UNIVERSITY

Schedule of Expenditures of Federal and State Awards

Year ended June 30, 2008

Federal and state grantors/pass-through grantors/agencies or cluster title	Federal CFDA number or other identifying grant number	Pass-through entity identifying number	Expenditures
MEDISPIN, Inc.	93.RD	—	$ (15,302)
Michigan State University	93.RD	—	31,744
Moses Cone Health System	93.RD	—	51,357
Montefiore Medical Center	93.RD	—	289,704
Mt. Sinai Medical Center	93.RD	—	(212,814)
NASMHPD Research Institute	93.RD	—	26,221
National Cancer Center	93.RD	—	46,683
National Center for Genome Resources	93.RD	—	267,275
National Jewish Medical and Research Center	93.RD	—	305,228
National Morrow Donor Program	93.RD	—	29,794
NEURO Corporation	93.RD	—	(4,095)
New England Medical Center	93.RD	—	43,148
New England Research Institute	93.RD	—	76,908
New York University	93.RD	—	419,857
New World Medical, Inc.	93.RD	—	51,596
North Carolina A&T University	93.RD	—	74,682
North Carolina Department of Environment, Health and Natural Resources	93.RD	—	37,886
North Carolina Department of Health and Human Services	93.RD	—	76,445
North Carolina State University	93.RD	—	105,617
Northern California Institute for Research and Education	93.RD	—	13,319
Northwestern University	93.RD	—	213,422
Ohio State University Research Foundation	93.RD	—	42,444
Ohio University	93.RD	—	208,979
Operation Sickle Cell, Inc.	93.RD	—	7,747
Oregon Health & Science University	93.RD	—	25,756
Pennsylvania State University	93.RD	—	173,293
Piedmont Health Center	93.RD	—	(680)
Population Council	93.RD	—	(7,293)
PPD Development, Inc.	93.RD	—	462,798
Progenics	93.RD	—	7,857
Proportional Technologies	93.RD	—	50,182
Provid Pharmaceuticals, Inc.	93.RD	—	(23,482)
Religent, Inc.	93.RD	—	54,370
Research Foundation for Mental Hygiene, Inc.	93.RD	—	(12,965)
Research Foundation of SUNY	93.RD	—	250,930
Research Triangle Institute	93.RD	—	692,721
Rhode Island Hospital	93.RD	—	145,925
SAIC-Frederick, Inc.	93.RD	—	398,660
Scripps Research Institute	93.RD	—	49,442
Seattle Institute of Cardiac Research	93.RD	—	(60,898)
Shaw University	93.RD	—	19,776
Social and Scientific Systems, Inc.	93.RD	—	105,566
St. Jude Children's Research Hospital	93.RD	—	318,194
Stanford University	93.RD	—	246,830
STS CQI	93.RD	—	42,878
Syntrix Biosystems, Inc.	93.RD	—	(2,351)
The Miriam Hospital	93.RD	—	25,451
Thomas Jefferson University	93.RD	—	(707)
Tufts University	93.RD	—	6,116
University of Alabama	93.RD	—	131,510
University of California at Berkeley	93.RD	—	443,320
University of California at Davis	93.RD	—	11,455
University of California at Irvine	93.RD	—	182,999
University of California at Los Angeles	93.RD	—	3,363,999
University of California at San Diego	93.RD	—	459,225
University of California at San Francisco	93.RD	—	349,369
University of Chicago	93.RD	—	414,177
University of Colorado Health Science Center	93.RD	—	96,013
University of Connecticut	93.RD	—	8,616
University of Florida	93.RD	—	57,423
University of Illinois	93.RD	—	109,008
University of Iowa	93.RD	—	46,700
University of Kansas	93.RD	—	162,895
University of Maryland	93.RD	—	245,272
University of Massachusetts	93.RD	—	31,671

(Continued)

DUKE UNIVERSITY

Schedule of Expenditures of Federal and State Awards

Year ended June 30, 2008

Federal and state grantors/pass-through grantors/agencies or cluster title	Federal CFDA number or other identifying grant number	Pass-through entity identifying number	Expenditures
University of Medicine & Dentistry of New Jersey	93.RD	—	$ 525,883
University of Miami	93.RD	—	265,073
University of Michigan	93.RD	—	1,031,689
University of Minnesota	93.RD	—	63,858
University of Natal-Caprisa	93.RD	—	(604)
University of New Mexico	93.RD	—	165,446
University of North Carolina at Chapel Hill	93.RD	—	3,672,279
University of Pennsylvania	93.RD	—	135,444
University of Pittsburgh	93.RD	—	178,794
University of Rochester	93.RD	—	29,878
University of South Carolina	93.RD	—	(31,379)
University of South Florida	93.RD	—	23,005
University of Southern California	93.RD	—	87,981
University of Texas Health Science Center	93.RD	—	38,870
University of Texas M.D. Anderson	93.RD	—	226,762
University of Texas Southwestern Medical Center	93.RD	—	6,691
University of Utah	93.RD	—	77,418
University of Vermont	93.RD	—	206,887
University of Washington	93.RD	—	27,801
University of Wisconsin	93.RD	—	30,074
Vanderbilt University	93.RD	—	149,000
Wake Forest University	93.RD	—	385,136
Washington University	93.RD	—	201,542
Wayne State University	93.RD	—	238,721
West Virginia University Research Corporation/WVU	93.RD	—	3,553
Williams Lifeskills, Inc.	93.RD	—	67,854
Winstar Institute	93.RD	—	234,034
WITS Health Consortium	93.RD	—	6,324
Woods Hole Oceanographic Institution	93.RD	—	11,451
Yale University	93.RD	—	366,937
Total Department of Health and Human Services			409,000,055
National Science Foundation:	47.RD	—	28,286,559
Pass-through programs from:			
Arizona State University	47.RD	—	1,100
Carnegie Institute of Washington	47.RD	—	(112)
Columbia University	47.RD	—	9,691
Cornell University	47.RD	—	61,016
Florida International University	47.RD	—	88,303
Michigan State University	47.RD	—	285,501
National Bureau of Economic Research	47.RD	—	11,499
National Institute of Statistics	47.RD	—	211,601
Northern Arizona University	47.RD	—	29,999
Pennsylvania State University	47.RD	—	17,946
Phenotype Screening Corporation	47.RD	—	11,081
Research Triangle Institute	47.RD	—	74,778
Stanford University	47.RD	—	2,230
University of California at Berkeley	47.RD	—	30
University of California at Santa Barbara	47.RD	—	27,667
University of Connecticut	47.RD	—	40,255
University of Georgia	47.RD	—	54,353
University of Illinois	47.RD	—	53,799
University of Minnesota	47.RD	—	120,469
University of North Carolina at Chapel Hill	47.RD	—	1
University of Notre Dame	47.RD	—	65,703
University of Washington	47.RD	—	22,422
West Chester University of Pennsylvania	47.RD	—	42,117
Total National Science Foundation			29,518,008
Department of Defense:	12.RD	—	22,024,930
Pass-through programs from:			
AERO Vironment	12.RD	—	22,400
Applied Quantum Technologies, Inc.	12.RD	—	98,868
AUA Foundation	12.RD	—	9,153
Boeing Company	12.RD	—	148,289
Blade Diagnostics Corp.	12.RD	—	19,595

(Continued)

DUKE UNIVERSITY

Schedule of Expenditures of Federal and State Awards

Year ended June 30, 2008

Federal and state grantors/pass-through grantors/agencies or cluster title	Federal CFDA number or other identifying grant number	Pass-through entity identifying number	Expenditures
CAS, Inc.	12.RD	—	$ 52,096
California Institute of Technology	12.RD	—	86,723
Citizens United for Research for Epilepsy, Inc.	12.RD	—	70,742
FMA Research, Inc.	12.RD	—	3,493
Fugro Pelagros, Inc.	12.RD	—	(6,260)
Georgia Tech	12.RD	—	5,878
GEO-MARINE, Inc.	12.RD	—	687,194
Henry M. Jackson Foundation	12.RD	—	81,350
Lockheed Martin Corporation	12.RD	—	564,381
Microelectronics Center of NC	12.RD	—	(44,708)
Micropropulsion Corp.	12.RD	—	33,331
Massachusetts Institute of Technology	12.RD	—	13,520
Moses Cone Health System	12.RD	—	61,730
North Carolina State University	12.RD	—	48,359
Northrop Grumman	12.RD	—	(1,837)
Ohio State University Research Foundation	12.RD	—	153,238
Pennsylvania State University	12.RD	—	76,046
Princeton University	12.RD	—	555,887
Quasar Federal Systems, Inc.	12.RD	—	11,351
Research Triangle Institute	12.RD	—	27,508
SAIC-Frederick, Inc.	12.RD	—	77,869
Sensormetrix, Inc.	12.RD	—	275,729
Signal Innovations Group	12.RD	—	1,341
SRI International	12.RD	—	180,989
Stanford University	12.RD	—	156,358
The Johns Hopkins University Applied Physics Lab	12.RD	—	74,412
University of California at Berkeley	12.RD	—	107,765
University of Illinois	12.RD	—	256,691
University of Maryland	12.RD	—	241,088
University of Michigan	12.RD	—	138,633
University of North Carolina at Chapel Hill	12.RD	—	12,751
University of New Mexico	12.RD	—	625
University of Rochester	12.RD	—	104,679
University of Washington	12.RD	—	373,488
Virginia Tech	12.RD	—	22,938
Vaxdesign Corporation	12.RD	—	60,589
William Marsh Rice University	12.RD	—	42,927
Total Department of Defense			26,932,129
Department of Energy:	81.RD	—	9,800,824
Pass-through programs from:			
Argonne National Laboratory	81.RD	—	7,312
Brookhaven National Laboratory	81.RD	—	180,321
Center to Protect Workers' Rights	81.RD	—	74,660
Indiana University	81.RD	—	25,023
Los Alamos National Laboratory	81.RD	—	354,271
Luna Innovations, Inc.	81.RD	—	(2,921)
National Renewable Energy Laboratory	81.RD	—	10,588
Resource for the Future	81.RD	—	97,473
Research Triangle Institute	81.RD	—	106,401
Sandia National Laboratory	81.RD	—	55,031
SURA/Jefferson Laboratory	81.RD	—	38,408
The Urban Institute	81.RD	—	355,542
Tulane University	81.RD	—	27,659
University of Alabama	81.RD	—	48
University of California at Irvine	81.RD	—	700
University of Georgia	81.RD	—	22,322
University of Pittsburgh	81.RD	—	52,105
Woods Hole Research Center	81.RD	—	4,741
Total Department of Energy			11,210,508
Environmental Protection Agency:	66.RD	—	1,793,597
Pass-through programs from:			
Arcadis G&M, Inc.	66.RD	—	18,539
ICF Associates, Inc.	66.RD	—	337,921

(Continued)

DUKE UNIVERSITY

Schedule of Expenditures of Federal and State Awards

Year ended June 30, 2008

Federal and state grantors/pass-through grantors/agencies or cluster title	Federal CFDA number or other identifying grant number	Pass-through entity identifying number	Expenditures
NC Department of Environment, Health and Natural Resources	66.RD	—	$ 53,917
Stratus Consulting, Inc.	66.RD	—	5,061
Vanderbilt University	66.RD	—	106,467
Total Environmental Protection Agency			2,315,502
National Aeronautics and Space Administration:	43.RD	—	990,348
Pass-through programs from:			
Bigelow Laboratory for Ocean Sciences	43.RD	—	25,573
Clear Science Corporation	43.RD	—	(11,175)
Cornell University	43.RD	—	43,213
Jet Propulsion Laboratory	43.RD	—	94,000
Monterey Bay Aquarium Research Institute	43.RD	—	75,716
North Carolina State University	43.RD	—	47,030
University of California at Irvine	43.RD	—	93,368
University of Nebraska	43.RD	—	26,993
Total National Aeronautics and Space Administration			1,385,066
Department of Commerce:	11.RD	—	321,819
Pass-through programs from:			
Florida State University	11.RD	—	4,748
New England Aquarium	11.RD	—	51,316
North Carolina State University	11.RD	—	9,541
Northwestern University	11.RD	—	990
University of New Hampshire	11.RD	—	7
Total Department of Commerce			388,421
Department of Justice:	16.RD	—	128,324
Pass-through programs from:			
City College of New York	16.RD	—	63,519
Total Department of Justice			191,843
Department of State:	19.RD	—	111,840
Pass-through programs from:			
Vanderbilt University	19.RD	—	7,648
Total Department of State			119,488
Department of Transportation:	20.RD	—	504,480
Pass-through programs from:			
University of Alabama	20.RD	—	7,406
Total Department of Transportation			511,886
Department of Agriculture:	10.RD	—	981,415
Pass-through programs from:			
Binational Agricultural Research and Development	10.RD	—	47,165
Colorado State University	10.RD	—	117,910
Columbia University	10.RD	—	85,277
Luna Innovations, Inc.	10.RD	—	2,337
Total Department of Agriculture			1,234,104
National Endowment for the Humanities:	45.RD	—	65,111
Pass-through programs from:			
University of Michigan	45.RD	—	(185)
Total National Endowment for the Humanities			64,926
Department of Education:	84.RD	—	1,723,387
Pass-through programs from:			
Georgia Institute of Technology	84.RD	—	14,481
University of North Carolina at Greensboro	84.RD	—	6,065
Total Department of Education			1,743,933
Agency for International Development:			
Pass-through programs from:			
ACDI/VOCA	98.RD	—	3,433
Total Agency for International Development			3,433

(Continued)

DUKE UNIVERSITY

Schedule of Expenditures of Federal and State Awards

Year ended June 30, 2008

Federal and state grantors/pass-through grantors/agencies or cluster title	Federal CFDA number or other identifying grant number	Pass-through entity identifying number	Expenditures
Department of Interior	15.RD	—	$ 219,262
Department of Veterans Affairs	64.RD	—	592,955
Total Research and Development Cluster			485,431,519
Student Financial Aid Cluster:			
Department of Education:			
Federal Pell Grant Program	84.063	—	1,901,882
Federal Supplemental Educational Opportunity Grant	84.007	—	1,507,094
Federal Work Study Program	84.033	—	1,394,481
Federal Perkins Loan Program	84.038	—	6,392,405
Federal Family Education Loan Program	84.032	—	92,371,857
Scholarship for Health Professions Students from Disadvantaged Backrounds			24,750
Total Student Financial Aid			103,592,469
Training and Other Programs:			
Department of Health and Human Services:			
Biological Response to Environmental Health Hazards	93.113	—	182,659
Nurse Anesthetist Traineeships	93.124	—	13,362
Geriatric Training for Physicians, Dentists and Behavioral/Mental Health Professionals	93.156	—	143,607
Human Genome Research	93.172	—	214,818
Research Related to Deafness and Communication Disorders	93.173	—	555,258
Telehealth Network Grants	93.211	—	228,117
Research and Training in Complementary and Alternative Medicine	93.213	—	107,547
National Research Service Awards-Health Service Research Training	93.225	—	316,698
Mental Health Research Grants	93.242	—	299,543
Substance Abuse and Mental Health Services	93.243	—	264,073
Advanced Education Nursing Grant Program	93.247	—	816,618
Comprehensive Geriatric Education Program	93.265	—	172,026
Alcohol Research Programs	93.273	—	72,844
Career Development Awards	93.277	—	638,398
Drug Abuse and Addiction Research Programs	93.279	—	280,697
Mental Health Research Career/Scientist Development Awards	93.281	—	1,686,046
Mental Health National Research Service Awards for Research Training	93.282	—	380,739
Discovery and Applied Research	93.286	—	796,209
Clinical Research	93.333	—	(10,399)
Advanced Education Nursing Traineeships	93.358	—	116,904
Nurse Education, Practice and Retention Grants	93.359	—	571,396
Research Infrastructure	93.389	—	1,674,309
Cancer Treatment Research	93.395	—	999
Cancer Biology Research	93.396	—	1,114,797
Cancer Research Manpower	93.398	—	3,009,937
Medical Assistance Programs	93.778	—	16,888
Cell Biology and Biophysics Research	93.821	—	6,074
Heart and Vascular Diseases Research	93.837	—	1,442,410
Lung Diseases Research	93.838	—	775,720
Blood Diseases and Resources Research	93.839	—	837,891
Arthritis, Musculoskeletal and Skin Diseases Research	93.846	—	206,190
Diabetes, Endocrinology and Metabolism Research	93.847	—	561,425
Digestive Diseases and Nutrition Research	93.848	—	622,590
Kidney Diseases and Nutrition Research	93.849	—	440,031
Extramural Research Programs in the Neurosciences and Neurological Disorders	93.853	—	845,908
Allergy, Immunology and Transplantation Research	93.855	—	936,899
Microbiology and Infectious Diseases Research	93.856	—	1,458,561
Pharmacology, Physiology and Biological Chemistry Research	93.859	—	5,441,332
Population Research	93.864	—	350,730
Center for Research for Mothers and Children	93.865	—	1,366,955
Aging Research	93.866	—	1,097,396
Vision Research	93.867	—	1,294,884
Grants for Training in Primary Care Medicine and Dentistry	93.884	—	137,797

(Continued)

DUKE UNIVERSITY

Schedule of Expenditures of Federal and State Awards

Year ended June 30, 2008

Federal and state grantors/pass-through grantors/agencies or cluster title	Federal CFDA number or other identifying grant number	Pass-through entity identifying number	Expenditures
National Bioterrorism Hospital Preparedness Program	93.889	—	$ 536,320
Assistance Programs for Chronic Disease Prevention and Control	93.945	—	95,378
Geriatric Education Centers	93.969	—	128,521
International Research and Research Training	93.989	—	411,272
Bioterrorism Training and Curriculum Development Program	93.996	—	26
Diarrheal Diseases Surveillance in Africa	93.200-2006-M-18067	—	34,542
Cancer Information Services	93.HHSN261200511	—	604,159
Cancer Information Services	93.N02-CO-01104	—	688
Curriculum Design/ OCCR Course Module Development	93.265-MD-506937	—	17,843
Maintenance of NHLBI Cord Blood Units	93.HHSN268200417176C	—	17,544
Diarrheal Diseases Surveillance Africa	93.UNKNOWN	—	15,137
Development and Implementation of a Model for On-Line Training	93.HHSN267200700004P	—	48,032
Pass-through programs from:			
Metropolitan AIDS Project: Coordinated Services and Access to Research for Women, Infants, Children and Youth	93.153	—	131,128
North Carolina Department of Health and Human Services: Alzheimer's Disease Demonstration Grants to States	93.051	—	15,000
North Carolina Department of Health and Human Services: National Family Caregiver Support, Title III, Part E	93.052	—	30,000
Research Foundation of SUNY: Mental Health Research Grants	93.242	—	8,495
University of Tennessee: Nursing Research	93.361	—	1,356
North Carolina Department of Health and Human Services: Medical Assistance Program	93.778	—	134,668
Yale University: Child Health and Human Development Extramural Research	93.865	—	100,406
Emory University: AIDS Education and Training Centers	93.145	—	197,887
North Carolina State University: Heart and Vascular Diseases Research	93.837	—	9,459
University of North Carolina at Chapel Hill: Occupational Safety and Health Research Grants	93.262	—	134,740
University of Illinois: Occupational Safety and Health Training Grants	93.263	—	(386)
University of North Carolina at Chapel Hill: Mental Health National Research Service Awards for Research Training	93.282	—	97,319
North Carolina Department of Health and Human Services: Centers for Disease Control and Prevention Investigation and Technical	93.283	—	73,557
United Nations Capital Development Fund: Discovery and Applied Research	93.286	—	418
University of Washington: Cancer Research Manpower	93.398	—	39,225
University of Texas at San Antonio: Newborn Screening by Tandem Mass Spectrometry: A Comprehensive Training Course/Lab	93.110	—	19,469
North Carolina Department of Health and Human Services: Project Grants and Cooperative Agreement for Tuberculosis Control Programs	93.116	—	80,728
HIV Prevention Activities – Health Department Based	93.940	—	3,781
HIV Care Formula Grants	93.917	—	288,953
Friends of Congressional Glaucoma Caucus Foundation Student Sight Saver Program/ Community Based Glaucoma Screening	—	93.E11/ CCE220462-01	57
Alamance County: Development, Implementing and Evaluating a Comprehensive Family Assessment/Improve Child Welfare	—	93.AC-000046	80,685
SAIC-Fredrick: ICBP Summer Fellowship Program	—	93.2770122SG/S07-077G	4,663
North Carolina Department of Health & Human Services: Aged, Blind, Disabled Pilot Program	—	93.14644	233,803
North Carolina Department of Health & Human Services: Congestive Heart Failure	—	93.15701	1,936
Total Department of Health and Human Services			35,083,692

(Continued)

DUKE UNIVERSITY

Schedule of Expenditures of Federal and State Awards

Year ended June 30, 2008

Federal and state grantors/pass-through grantors/agencies or cluster title	Federal CFDA number or other identifying grant number	Pass-through entity identifying number	Expenditures
Corporation for National and Community Service:			
Pass-through programs from:			
University of North Carolina at Chapel Hill:			
Learn and Serve America-Higher Education	94.005	—	$ 22,349
Total Corporation for National and Community Service			22,349
Agency for International Development:			
Pass-through programs from:			
Bearingpoint, Inc.:			
India State Fiscal Management Reform-Strengthen Capacity	—	98.386-C-00-03	63,594
Total Agency for International Development			63,594
Vietnam Education Foundation Fellowship	99.Unknown	—	23,842
Total Vietnam Education Foundation			23,842
Department of Defense:			
Basic and Applied Scientific Research	12.300	—	221,740
Military Medical Research and Development	12.420	—	1,156,782
Basic, Applied, and Advanced Research in Science and Engineering	12.630	—	2,488
Air Force Defense Research Sciences Program	12.800	—	7,000
Reserve Officers Training Core – Air Force	12.ROTC	—	417,750
Reserve Officers Training Core – Navy	12.ROTC	—	1,242,209
Reserve Officers Training Core – Army	12.ROTC	—	894,358
Regulation of P53 Activity by Reversible-Acetylation in Prostate Tumor Suppression	12.W81XWH-04-1-0148	—	16,266
National Security Implications of Global Climate Changes	12.W91QF0-07-P-0026	—	(278)
Pass-through programs from:			
Battelle Columbus Operations: Scientific Services Program	—	12.TCN 07171	10,155
University of California at Los Angeles: Project Focus Families Overcoming and Coping Under Stress	—	12.2000-S-JQ785	2,534
Total Department of Defense			3,971,004
Nuclear Regulatory Commission:			
Development of Nuclear Safety Graduate Level Courses	77.NRC-38-07-494	—	34,859
Health Physics Fellowship Program at Duke University	77.NRC-38-07-697	—	5,000
Total Nuclear Regulatory Commission			39,859
Department of Energy:			
Conference: 13th International Congress of Radiation Research	81.DE-FG02-07ER64418	—	28,200
Pass-through programs from:			
UT-Battelle: Research Collaboration and Program Development	—	81.DE-AC05-000R22725	1,772
Fermi National Laboratory: Salary Support	—	81.DE-AC02-07OH11359	22,346
Fermi National Laboratory: Salary Support	—	81.DE-AC02-07OH11959	19,630
Total Department of Energy			71,948
National Science Foundation:			
Engineering Grants	47.041	—	320,429
Mathematical and Physical Sciences	47.049	—	276,148
Geosciences	47.050	—	1,802,971
Computer and Information Science and Engineering	47.070	—	127,781
Biological Sciences	47.074	—	519,212
Social, Behavioral, and Economic Sciences	47.075	—	984,217
Education and Human Resources	47.076	—	3,423,916
International Science and Engineering (OISE)	47.079	—	25,122
National Center for Science and Civic Engagement: Infectious Diseases: Superbugs, Science and Society	47.BNS-08-24546	—	636
Dissertation Res: Edaphic Factors/Diversification of Ceanothus L. Subgenus Cerastes	47.Unknown	—	1,589
Pass-through programs from:			
University of California at Los Angeles: Engineering Grants	47.041	—	50,000
Norther Arizona University: Education and Human Resources	47.076	—	20,514
National Center for Science and Civic Engagement: infectious Diseases: Superbugs, Science and Society	47.Unknown	—	225
Total National Science Foundation			7,552,760

(Continued)

DUKE UNIVERSITY

Schedule of Expenditures of Federal and State Awards

Year ended June 30, 2008

Federal and state grantors/pass-through grantors/agencies or cluster title	Federal CFDA number or other identifying grant number	Pass-through entity identifying number	Expenditures
Department of Commerce:			
Measurement and Engineering Research and Standards	11.609	—	$ 6,650
Total Department of Commerce			6,650
National Aeronautics and Space Administration:			
Fellowship Program	43.NGT1-03016	—	(4,027)
Fellowship Program	43.NNG04GQ60H	—	(2,488)
Fellowship Program	43.NNM05ZA07H	—	29,461
Fellowship Program	43.NNG05GP44H	—	18,528
Fellowship Program	43.NNG05GP55H	—	26,356
Fellowship Program	43.NNX06AF67H	—	23,640
Fellowship Program	43.NNX06AF84H	—	25,535
Fellowship Program	43.NNL06AA10H	—	5,206
Fellowship Program	43.NNX07AJ60G	—	216,350
Fellowship Program	43.NNL04AA14H	—	4,027
Fellowship Program	43.NNX07A051H	—	19,973
Fellowship Program	43.NNX07A054H	—	30,401
Fellowship Program	43.NNX07AM38H	—	21,671
Total National Aeronautics and Space Administration			414,633
Environmental Protection Agency:			
Science to Achieve Results (STAR) Fellowship Program	66.514	—	87,765
Pass-through programs from:			
Research Triangle Institute:			
Forestry & Agriculture Greenhouse Gas Modeling Forum	66.2-312-0208702	—	22,771
Total Environmental Protection Agency			110,536
Department of Agriculture:			
Agricultural Research Basic and Applied Science	10.001	—	1,949
Grants for Agricultural Research – Competitive Research Grants	10.206	—	12,794
Pass-through programs from:			
North Carolina State University:			
Grants for Agricultural Research – Competitive Research Grants	—	10.206	5,385
Total Department of Agriculture			20,128
Department of Treasury:			
Low-Income Taxpayer Clinics	21.008	—	61,673
Total Department of Treasury			61,673
National Archives and Records Administration:			
The Selected Papers of Jane Adams	89.2004-094	—	862
The Jane Adams Papers	89.2005-090	—	30,688
Total National Archives and Records Administration			31,550
National Endowment for the Arts:			
Promotion of the Arts Grants to Organizations and Individuals	45.024	—	15,000
Pass-through programs from:			
North Carolina Arts Council: Visual Program Support	—	45.FY07-082	924
Total National Endowment for the Arts			15,924
National Endowment for the Humanities:			
Promotion of the Humanities Professional Development	45.163	—	85,907
Total National Endowment for the Humanities			85,907
Department of Education:			
National Resource Centers and Fellowships Program for Language and Area or Language and International Studies	84.015	—	2,252,057
Overseas Programs – Group Projects Abroad	84.021	—	37,069
Graduate Assistance in Areas of National Need	84.200	—	55,158
Centers for International Business Education	84.220	—	360,934
Pass-through programs from:			
North Carolina State University:			
International Research & Studies	84.017	—	36,985
Total Department of Education			2,742,203
Total Federal Award Expenditures			639,342,240

(Continued)

DUKE UNIVERSITY

Schedule of Expenditures of Federal and State Awards

Year ended June 30, 2008

Federal and state grantors/pass-through grantors/agencies or cluster title	Federal CFDA number or other identifying grant number	Pass-through entity identifying number	Expenditures
State Award Expenditures:			
Pass-through funds from the University of North Carolina at Chapel Hill	—	—	$ 5,980,595
Pass-through funds from the University of North Carolina at Greensboro	—	—	15,783
Chief Justice Commission on Professionalism	—	—	8,739
North Carolina Arts Council	—	—	15,000
North Carolina Board of Governors	—	—	265,000
North Carolina Department of Health and Human Services	—	—	1,150,182
North Carolina Contractual Scholarship for Needy North Carolinians	—	—	1,202,425
North Carolina Department of Environment, Health, and Natural Resources	—	—	217,282
North Carolina Foundation for Advanced Health	—	—	115,810
North Carolina Department of Crime Control and Public Safety	—	—	(1,578)
North Carolina Department of Public Instruction	—	—	29,675
North Carolina Legislature	—	—	1,721,465
North Carolina Wildlife Resources Commission	—	—	308,656
North Carolina State University			90,113
Total State Award Expenditures			11,119,147
Total Federal and State Award Expenditures			$ 650,461,387

See accompanying notes to schedule of expenditures of federal and state awards.

DUKE UNIVERSITY

Notes to Schedule of Expenditures of Federal and State Awards

Year ended June 30, 2008

(1) Basis of Presentation

The accompanying schedule of expenditures of federal and state awards includes all grants, contracts, and similar agreements entered into directly between Duke University (Duke) and agencies and departments of the federal and state governments and all subawards to Duke by nonfederal organizations pursuant to federal and state grants, contracts, and similar agreements. The information in this schedule is prepared on the accrual basis of accounting and is presented in accordance with the provisions of Office of Management and Budget (OMB) Circular A-133, *Audits of States, Local Governments, and Non-Profit Organizations*. Therefore, some amounts presented in this schedule may differ from amounts presented in, or used in the preparation of, the consolidated financial statements.

(2) Summary of Significant Accounting Policies for Federal and State Award Expenditures

Expenditures for student financial aid programs are recognized as incurred and include the federal share of students' Federal Supplemental Educational Opportunity Grants program grants and Federal Work-Study program earnings, Pell grants, loan disbursements and administrative cost allowances, where applicable.

Expenditures for other federal awards of Duke's academic and other divisions are determined using the cost accounting principles and procedures set forth in OMB Circular A-21, *Cost Principles for Educational Institutions*. Under these cost principles, certain expenditures are not allowable or are limited as to reimbursement.

Expenditures include facilities and administrative costs, related primarily to facilities operation and maintenance and general, divisional, and departmental administrative services, which are allocated as a percentage of direct cost based on negotiated rates. Facilities and administrative costs allocated to such awards for the year ended June 30, 2008 were based on predetermined fixed rates negotiated with Duke's cognizant federal agency, the Department of Health and Human Services.

(3) Summary of Facilities and Administrative Cost Allowances – Governmental Sources

Facilities and administrative cost recoveries and administrative cost allowances from governmental sources for Duke's academic and other divisions for the year ended June 30, 2008 are summarized as follows:

Research and development	$ 124,446,000
Student financial aid	389,000
Training and other programs	3,043,000
	$ 127,878,000

(4) Federal Student Financial Aid Loan Programs

The Federal Perkins, Health Professions Student Loan (HPSL) and Primary Care Loan (PCL) programs are administered directly by Duke and balances and transactions relating to these programs are included in Duke's consolidated financial statements. The balances of loans outstanding under the Federal Perkins and HPSL programs were approximately $29,801,000 and $259,000, respectively, as of June 30, 2008.

Duke is responsible only for the performance of certain administrative duties with respect to the Federal Family Education Loan Programs and, accordingly, these loans are not included in its consolidated financial statements. It is not practical to determine the balance of loans outstanding to students and former students of Duke under these programs as of June 30, 2008.

(5) Subrecipients

Of the federal expenditures presented in the schedule, Duke provided federal awards to subrecipients as follows:

Federal grant agency		Amount provided to subrecipients
Department of Health and Human Services	$	66,936,000
Department of Defense		3,063,000
Department of Energy		1,920,000
National Science Foundation		3,549,000
Others		2,082,000
	$	77,550,000

KPMG LLP
Suite 400
300 North Greene Street
Greensboro, NC 27401

Report on Internal Control over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with *Government Auditing Standards*

The Board of Trustees of Duke University:

We have audited the consolidated financial statements of Duke University as of and for the year ended June 30, 2008, and have issued our report thereon dated October 3, 2008, which included an explanatory paragraph that indicated the University adopted the measurement date provisions of Statement No. 158. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States.

Internal Control over Financial Reporting

In planning and performing our audit, we considered Duke University's internal control over financial reporting as a basis for designing our auditing procedures for the purpose of expressing an opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of Duke University's internal control over financial reporting. Accordingly, we do not express an opinion on the effectiveness of Duke University's internal control over financial reporting.

A control deficiency exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect misstatements on a timely basis. A significant deficiency is a control deficiency, or combination of control deficiencies, that adversely affects the entity's ability to initiate, authorize, record, process, or report financial data reliably in accordance with generally accepted accounting principles such that there is more than a remote likelihood that a misstatement of the entity's financial statements that is more than inconsequential will not be prevented or detected by the entity's internal control.

A material weakness is a significant deficiency, or combination of significant deficiencies, that results in more than a remote likelihood that a material misstatement of the financial statements will not be prevented or detected by the entity's internal control.

Our consideration of internal control over financial reporting was for the limited purpose described in the first paragraph of this section and would not necessarily identify all deficiencies in internal control that might be significant deficiencies or material weaknesses. We did not identify any deficiencies in internal control over financial reporting that we consider to be material weaknesses, as defined above.

Compliance and Other Matters

As part of obtaining reasonable assurance about whether Duke University's consolidated financial statements are free of material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of consolidated financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

We noted certain matters that we reported to the administration of Duke University in a separate letter dated October 3, 2008.

This report is intended solely for the information and use of the Board of Trustees and the administration of Duke University and federal and state awarding agencies and pass-through entities and is not intended to be and should not be used by anyone other than these specified parties.

KPMG LLP

October 3, 2008

KPMG LLP
Suite 400
300 North Greene Street
Greensboro, NC 27401

Report on Compliance with Requirements Applicable to Each Major Program and on Internal Control over Compliance in Accordance with OMB Circular A-133

The Board of Trustees of Duke University:

Compliance

We have audited the compliance of Duke University with the types of compliance requirements described in the U.S. Office of Management and Budget (OMB) *Circular A-133 Compliance Supplement* that are applicable to each of its major federal programs for the year ended June 30, 2008. Duke University's major federal programs are identified in the summary of auditor's results section of the accompanying schedule of findings and questioned costs. Compliance with the requirements of laws, regulations, contracts, and grants applicable to each of its major federal programs is the responsibility of Duke University's management. Our responsibility is to express an opinion on Duke University's compliance based on our audit.

We did not audit Duke University's compliance with requirements governing maintaining contact with and billing borrowers and processing deferment and cancellation requests and payments in accordance with the requirements of the Student Financial Aid Cluster: Federal Perkins Loan Program as described in the Compliance Supplement. Those requirements govern functions that are performed by Educational Computer Systems, Inc. (ECSI). We also did not audit Duke University's compliance with requirements governing processing of Federal Family Education Loans as a lender with the requirements of the Student Financial Aid Cluster as described in the Compliance Supplement. Those requirements govern functions that are performed by Sallie Mae Lender Servicing (Sallie Mae). Since we did not apply auditing procedures to satisfy ourselves as to compliance with those requirements, the scope of our work was not sufficient to enable us to express, and we do not express an opinion on compliance with those requirements.

ECSI and Sallie Mae's compliance with the requirements governing the functions that they perform for Duke University were examined by other accountants' in accordance with the U.S. Department of Education's Audit Guide, *Audits of Federal Student Financial Assistance Programs at Participating Institutions and Institution Servicers*. Our report does not include the results of the other accountants' examinations of ECSI or Sallie Mae's compliance with such requirements.

We conducted our audit of compliance in accordance with auditing standards generally accepted in the United States of America; the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and OMB Circular A-133, *Audits of States, Local Governments, and Non-Profit Organizations*. Those standards and OMB Circular A-133 require that we plan and perform the audit to obtain reasonable assurance about whether noncompliance with the types of compliance requirements referred to above that could have a direct and material effect on a major federal program occurred. An audit includes examining, on a test basis, evidence about Duke University's compliance with those requirements and performing such other procedures as we considered

necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion. Our audit does not provide a legal determination of Duke University's compliance with those requirements.

In our opinion, Duke University complied, in all material respects, with the requirements referred to above that are applicable to each of its major federal programs for the year ended June 30, 2008. However, the results of our auditing procedures disclosed instances of noncompliance with those requirements, which are required to be reported in accordance with OMB Circular A-133 and which are described in the accompanying schedule of findings and questioned costs as items 08-1 through 08-4.

Internal Control over Compliance

The management of Duke University is responsible for establishing and maintaining effective internal control over compliance with requirements of laws, regulations, contracts, and grants applicable to federal programs. In planning and performing our audit, we considered Duke University's internal control over compliance with the requirements that could have a direct and material effect on a major federal program in order to determine our auditing procedures for the purpose of expressing our opinion on compliance, but not for the purpose of expressing an opinion on the effectiveness of internal control over compliance. Accordingly, we do not express an opinion on the effectiveness of the University's internal control over compliance.

Requirements governing maintaining contact with and billing borrowers and processing deferment and cancellation requests and payments in the Student Financial Aid Cluster: Federal Perkins Loan Program as described in the Compliance Supplement are performed by ECSI. Requirements governing processing of Federal Family Education Loans as a lender within the Student Financial Aid Cluster as described in the compliance supplement are performed by Sallie Mae. Internal control over compliance relating to such functions for the year ended June 30, 2008 was reported on by other accountants in accordance with the U.S. Department of Education's Audit Guide, *Audits of Federal Student Financial Assistance Programs at Participating Institutions and Institution Servicers*. Our report does not include the results of other accountants' testing of ECSI's or Sallie Mae's internal control over compliance related to such functions.

A control deficiency in an entity's internal control over compliance exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent or detect noncompliance with a type of compliance requirement of a federal program on a timely basis.

A significant deficiency is a control deficiency, or combination of control deficiencies, that adversely affects the entity's ability to administer a federal program such that there is more than a remote likelihood that noncompliance with a type of compliance requirement of a federal program that is more than inconsequential will not be prevented or detected by the entity's internal control.

A material weakness is a significant deficiency, or combination of significant deficiencies, that results in more than a remote likelihood that material noncompliance with a type of compliance requirement of a federal program will not be prevented or detected by the entity's internal control.

Our consideration of internal control over compliance was for the limited purpose described in the first paragraph of this section and would not necessarily identify all deficiencies in the entity's internal control that might be significant deficiencies or material weaknesses. We did not identify any deficiencies in internal control over compliance that we consider to be material weaknesses, as defined above.

Duke University's responses to the findings identified in our audit are described in the accompanying schedule of findings and questioned costs. We did not audit Duke University's responses, and accordingly, we express no opinion on them.

This report is intended solely for the information and use of the Board of Trustees and the administration of Duke University, and federal and state awarding agencies and pass-through entities and is not intended to be and should not be used by anyone other than these specified parties.

KPMG LLP

November 21, 2008

DUKE UNIVERSITY

Schedule of Findings and Questioned Costs

Year ended June 30, 2008

(1) Summary of Auditors' Results

(a) The type of report issued on the financial statements: **unqualified opinion**

(b) Significant deficiencies in internal control were disclosed by the audit of the financial statements: **none reported** Material weaknesses: **none**

(c) Noncompliance which is material to the financial statements: **none**

(d) Significant deficiencies in internal control over major programs: **none reported** Material weaknesses: **none**

(e) The type of report issued on compliance for major programs: **unqualified opinion**

(f) Any audit findings which are required to be reported under Section 0.510(a) of OMB Circular A-133: **see findings 08-1 through 08-4**

(g) Major programs: **Research and Development Cluster; Microbiology and Infectious Disease Research (CFDA 93.856); Student Financial Aid Cluster (including CFDA 84.032 FFEL-Lenders); Biomedical Research and Research Training (CFDA 93.859); and Education and Human Resources (47.076)**

(h) Dollar threshold used to distinguish between Type A and Type B programs: **$3,000,000**

(i) Auditee qualified as a low-risk auditee under Section 0.530 of OMB Circular A-133: **yes**

(2) Findings Relating to the Financial Statements Reported in Accordance with *Government Auditing Standards*: none

(3) Findings and Questioned Costs Relating to Federal Awards:

Finding No. 08-1: Return of Title IV Funds Not Processed Timely

***Federal Agency*:** Department of Education

Program: Student Financial Aid

CFDA #: 84.xxx

Grant Number: P033A073087, P063P071926, P007A073087

Project Period: July 1, 2007 – June 30, 2008

Cluster: Student Financial Aid Cluster

Criteria:

Returns of Title IV funds are required to be deposited or transferred into the student's financial aid account or electronic fund transfers initiated to the Department of Education (ED) or the appropriate Federal Financial Education Loan Program lender as soon as possible, but no later than 45 days after the date the institution determines that the student withdrew. Returns by check are late if the check is issued more than 45 days after the institution determined the student withdrew or the date on the canceled check shows the check was endorsed more than 60 days after the date the institution determined that the student withdrew (34 CFR section 668.173(b)).

Condition:

Of the 18 students selected for testwork, which represented the entire population, the refunds for six (6) students were not processed within a 45 day timeframe. The average timeframe for those six (6) students was 105 days.

Cause:

Administrative oversight.

Questioned Costs:

Not determinable.

Recommendation:

We recommend that the University maintain and monitor a listing of all withdrawals and manage the listing in order to ensure that there is a refund calculation performed and the refunds submitted in a timely manner.

Management Response:

The University has established new procedures for managing withdrawal notices and related refunds of Federal Title IV funds. The new procedures include a set of guidelines requiring academic deans to use the actual date of withdrawal as directed by federal regulations. Additionally, all withdrawals that require Federal Title IV refunds will be reviewed centrally prior to processing. The new procedures will ensure timely processing of refunds.

Finding No. 08-2: Submission of Student Status Changes

***Federal Agency*:** Department of Education

Program: Federal Family Education Loans (FFEL)

CFDA #: 84.032

Project Period: July 1, 2007 – June 30, 2008

Cluster: Student Financial Aid Cluster

Criteria:

Under the FFEL and Direct Loan programs, schools must complete and return within 30 days of receipt the Student Status Confirmation Reports (SSCR) sent by the ED or a guaranty agency (*OMB No. 1845-0035*). The SSCR is transmitted electronically.

The institution determines how often it receives the SSCR, but the minimum is twice a year. Once received, the institution must update for changes in student status, report the date the enrollment status was effective, enter the new anticipated completion date, and submit the changes electronically through the batch method or the National Student Loan Data System (NSLDS) web site. Unless the school expects to complete its next SSCR within 60 days, the school must notify the lender or the guaranty agency within 30 days, if it discovers that a student who received a loan either did not enroll or ceased to be enrolled on at least a half-time basis (FFEL, 34 CFR section 682.610; Direct Loan, 34 CFR section 685.309).

Condition:

Of the 30 students selected for testwork, the submissions reported the status for five (5) students incorrectly. Each of the incorrect submissions related to students on a leave of absence.

Cause:

Administrative oversight.

Questioned Costs:

None.

Recommendation:

We recommend that the University implement a process to ensure that all student status changes are reported accurately.

Management Response:

The SSCR is submitted by the Registrar's Office. A new procedure has been established to ensure that all student status changes are reported accurately.

Finding No. 08-3: Overaward of Federal Aid

***Federal Agency*:** Department of Education

DUKE UNIVERSITY

Schedule of Findings and Questioned Costs

Year ended June 30, 2008

Program: Student Financial Aid

CFDA #: 84.xxx

Grant Number: P033A073087, P063P071926, P007A073087

Project Period: July 1, 2007 – June 30, 2008

Cluster: Student Financial Aid Cluster

Criteria:

Awards must be coordinated among the various programs and with other federal and non-federal aid to ensure that total aid is not awarded in excess of the student's financial need (FPL, FWS, and FSEOG, 34 CFR sections 673.5 and 673.6; FFEL, 34 CFR section 682.603; Direct Loan, 34 CFR section 685.301; HPSL, 42 CFR section 57.206; NSL, 42 CFR section 57.306(b)).

The determination of SFA award amounts is based on financial need. Financial need is generally defined as the student's cost of attendance (COA) minus financial resources reasonably available. In determining the financial resources available for the programs, the school must use one of the need analysis systems or any other procedures approved by the Secretary of Education. The school must also take into account other information that it has regarding the student's financial status. For Title IV programs, the financial resources available is generally the Expected Family Contribution (EFC) that is computed by the central processor and included on the student's Student Aid Report (SAR) and the Institutional Student Information Record (ISIR) provided to the institution.

Condition:

Of the 79 students selected for testwork, four (4) students had incorrect calculations for COA. Three of the miscalculations resulted from changes in the students' status which were not reflected in the calculations and one resulted from an increase based on professional judgment for a reason which was not a special circumstance for the student. Of the four (4) students with overstated COA calculations, two (2) resulted in overawards of federal aid totaling $2,065 of the total $2,015,377 federal student financial aid tested.

Cause:

Administrative oversight.

Questioned Costs:

$2,065

Recommendation:

We recommend that the University implement a review process of all cost of attendance calculations to ensure that students do not receive federal aid in excess of need.

Management Response:

The central Student Financial Aid office has worked closely with the graduate and professional school aid officers to insure that they fully understand the COA calculations, particularly as they relate to student status changes. The central Student Financial Aid office will carefully review each school's cost of attendance calculations annually.

Additionally, graduate and professional aid officers have been trained in the use of professional judgment with respect to such matters.

Finding No. 08-4: Timeliness of Cost Transfers

Federal Agency: Environmental Protection Agency, National Science Foundation, National Institutes of Health, and United States Agency for International Development

Program: Pulsed UV versus Low-to-Medium Pressure UV: Evaluation of Drinking Water Treatment Efficiency; Collaborative Research: Virtual Paygrounds: Making Virtual Distributed Computing Real; Regulation of Hematopoietic Stem Cell Self-Renewal; India State Fiscal Management Reform Strength Capacity; Functions of Cryptococcus Neoformans Mating Type Loci; Desiccation Cracks and Their Effect on Permeability in Clays; and Redirecting Specificity of Viral Specific T Cells.

CFDA #: 66.511, 47.070, 93.849, 98.386, 93.856, 47.041, and 93.395

Grant Number: EPA-R-831902-01, CNS-05-09408, 5R0I-DK-063031-06, 386-C-00-03-000108, 5R01-A1-050113-05, CMS-03-24543, and 5R01-CA-095447-04

Project Period: 08/01/04-07/31/08, 09/01/05-8/31/09, 04/01/03-07/31/11, 04/14/04-12/31/07, 06/15/05-05/31/09, 08/01/03-04/30/08, and 06/01/03-05/31/08

Cluster: Research and Development

Criteria:

To be allowable under Federal awards, costs must conform to the allowability provisions of OMB Circular A-21, or, if applicable, limitations in the program agreement, program regulations, or program statute. When unallowable, unallocable, or erroneous charges are detected, cost transfers must be made and adequate documentation must be maintained.

Condition:

All 44 cost transfers selected for testwork included adequate documentation and were accurate; however, seven (7) of the cost transfers tested were for charges that occurred six months or prior to the transfer. While all of the transfers tested were identified by the University's control procedures, the time lag between the original charge and the identification and disposition of the cost transfers should be shortened.

Cause:

Untimely review process.

Questioned Costs:

None

Recommendation:

We recommend that the University continue to emphasize the importance of timely corrections of charges against federal grants to ensure that all unallowable, unallocable, or erroneous charges are detected and the related cost transfers are made within a timely manner.

***Management Response*:**

Duke University has processes and procedures in place to limit untimely cost transfers; however they will occur on occasion if there is justifiable cause. The criteria we use for untimeliness is three (3) accounting periods from the initial charge being recorded. NIH guidance states 90 days from date of the error being discovered. We believe that our process is more restrictive and encourages timely reconciliation of sponsored projects.

Management is currently implementing an automated system for processing cost transfers that will increase the visibility of the timeliness of cost transfers and require documentation of the circumstances if untimely. The system will also workflow untimely cost transfers to varying levels of management within the University for approval based on established parameters for timeliness. Our training programs will also continue to emphasize the importance of timely reconciliation and correction of errors.