BULLETIN
OF
WASHINGTON UNIVERSITY
ST. LOUIS

TWENTY-SIXTH ANNUAL
CATALOGUE
OF THE
MEDICAL SCHOOL

FEBRUARY, 1915

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SERIES II  VOLUME XIII  NUMBER III
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Second Trimester ends Saturday, March 11, 1916.


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Holiday, Good Friday, April 21, 1916, and Saturday, April 22, 1916.

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University Holiday, Friday, May 12, 1916.

Third Trimester ends Saturday, May 27, 1916.

Final Examinations begin Monday, May 29, 1916.

Examinations for Entrance and for Advanced Standing, Monday and Tuesday, June 5 and 6, 1916.

Commencement, Thursday, June 8, 1916.
# CALENDAR

## 1915

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4474 Washington Boulevard

*On leave of absence.
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M.D., Jefferson Medical College, 1863; Formerly Physician in Chief, St. Vincent's Institution for the Insane, St. Louis; Attending Physician to the Convent of the Good Shepherd, and Visitation Convent, St. Louis; Professor of Nervous and Mental Diseases and Medical Jurisprudence, Missouri Medical College, St. Louis, 1872-99.

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M.D., University of Virginia, 1875; Professor of Diseases of Children and Clinical Midwifery, Missouri Medical College, 1891-99, and Washington University Medical School, 1899-1909; Member of the Medical Staff of Bethesda Hospital, Missouri Baptist Sanitarium, and St. Louis Maternity Hospital.

WASHINGTON E. FISCHEL, M.D. Clinical Professor of Medicine
M.D., St. Louis Medical College, 1871; Interne, St. Louis City Hospital, 1871; Lecturer on Therapeutics, Professor of Hygiene and Forensic Medicine, and Professor of Clinical Medicine, St. Louis Medical College, 1881-99; Professor of Clinical Medicine, Medical Department of Washington University, 1899-1911; Consulting Physician, St. Louis City Hospital, 1881-1909; President of the Medical Staff of the Barnard Free Skin and Cancer Hospital, 1905-13; Member of the Medical Staff, St. Luke's Hospital; Consulting Physician to Washington University Hospital.

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M.D., St. Louis Medical College, 1868; Assistant in Surgery, Adjunct Professor of the Principles and Practice of Surgery and of Clinical Surgery, St. Louis Medical College, 1881-99; Professor of Clinical Surgery, Medical Department of Washington University, 1899-1911; Surgeon in Chief, St. Louis Mullanphy Hospital.

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A.B., Washington University, 1878; M.D., St. Louis Medical College, 1881; Interne, St. Louis City Hospital, 1881-82; Interne, Female Hos-

* Died October 10, 1914.
† Died September 15, 1914.
pital, St. Louis, 1882-88; Lecturer on Diseases of the Ear, St. Louis Medical College, 1886-90; Clinical Professor, Diseases of the Ear, St. Louis Medical College, 1890-95; Dean of the Medical Faculty, Medical Department of Washington University, 1901-02; Professor of Otology, St. Louis Medical College and Washington University Medical School, 1895-1912; Member of the Hospital Board of the City of St. Louis, 1910-12; Member of the Medical Staff of St. Luke's Hospital, and Barnard Free Skin and Cancer Hospital. Otolgist to St. Louis Children's Hospital and the Barnes Hospital and Chief of the Otological Clinic, Washington University Dispensary.

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B.S., University of California, 1895; M.D., Johns Hopkins University, 1899; Resident House Officer, Johns Hopkins Hospital, 1899-1900; Fellow in Pathology, Assistant, Instructor, Associate, and Associate Professor of Physiology, Johns Hopkins University, 1900-06; Professor of Physiology, University of Wisconsin, 1906-10; Member of the Editorial Committee of the American Journal of Physiology.

4248 West Pine Boulevard

PHILIP A. SHAFFER, Ph.D. . . . . Professor of Biological Chemistry
A.B., West Virginia University, 1900; Ph.D., Harvard University, 1904; Resident Assistant Pathological Chemist, McLean Hospital, Waverley, Mass., 1900-03; Assistant, Fellow, and Instructor in Chemical Pathology, Cornell University, 1904-10; Chemist to Huntington Fund for
Cancer Research, 1906-10; Pathological Chemist and Head of Chemical Section of the Laboratory of Bellevue Hospital, 1909-10.

5642 Von Versen Avenue

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A.B., Washington University, 1901; M.D., Missouri Medical College, 1895; Interne, St. Louis Female Hospital, 1896; Demonstrator in Anatomy, Missouri Medical College, 1896-99; Assistant Professor and Professor of Anatomy, Washington University, 1899-1901; Austin Teaching Fellow in Histology and Embryology, Harvard University, 1906-07. Editor of the Bulletin of the Washington University Medical School.

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A.B., Yale University, 1897; A.M., (hon.), 1914; M.D., Harvard University, 1901; Interne and Graduate Assistant, Massachusetts General Hospital, 1901-02; Assistant in Anatomy and Austin Teaching Fellow in Surgery, Harvard Medical School, 1903-05; Assistant Surgeon, Infants' Hospital, Boston, 1904-08; Surgeon to Out Patients, Massachusetts General Hospital, 1907-11; Visiting Surgeon to Clinic, Harvard Medical School, 1909-11; Assistant in Surgery, Harvard Medical School, 1910-11; Consulting Surgeon, St. Louis City Hospital. Surgeon in Chief to Barnes and St. Louis Children's Hospitals.

5738 Cates Avenue

HENRY SCHWARZ, M.D. Clinical Professor of Obstetrics
M.D., St. Louis Medical College, 1879; M.D., University of Giessen, 1880; Resident Physician, Recurrent Fever Hospital, Giessen, 1879-80; Assistenzarzt und Repetent beim Geburtshilflichen Unterricht an der Universitaets-Frauenklinik, Giessen, 1880-81; Erster Assistenzarzt und Repetent beim Geburtshilflichen Unterricht an der Universitaets-Frauenklinik, Heidelberg, 1881-83; Clinical Lecturer on Gynecology, St. Louis Medical College, 1886-89, and Clinical Professor of Gynecology, 1889-99; Professor of Obstetrics, Medical Department of Washington University, 1899-1908, and Professor of Obstetrics and Gynecology, 1907-12; Consulting Surgeon, St. Louis City Hospital. Obstetrician in Chief to the Barnes Hospital.

440 N. Newstead Avenue

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M.D., Central University, 1880; Interne, City Hospital and Forest Hill Lying-in Hospital, Louisville, 1880-81; Visiting Surgeon, St. Luke's Hospital; Consulting Surgeon, Missouri Baptist Sanitarium, Bethesda
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M.D., St. Louis Medical College, 1881; Interne, St. Louis City Hospital, 1881-82; Interne, Female Hospital, St. Louis 1881-82; Demonstrator of Anatomy, Lecturer on Osteology, and Professor of Osteology and Regional Anatomy, 1888-99, Professor of Fractures and Dislocations and Clinical Surgery, 1899, St. Louis Medical College; Surgeon and Chief of Staff, St. Luke's Hospital; Surgeon to the Barnard Free Skin and Cancer Hospital.

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4502 Maryland Avenue

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A.B., Dartmouth College, 1878; A.M., Washington University, 1912; M.D., St. Louis Medical College, 1883; Assistant in the Ophthalmic Clinic of St. Luke's Hospital, St. Louis, 1888-1895; Clinical Lecturer on Ophthalmology, St. Louis Medical College, 1895. Ophthalmologist to the Barnes Hospital and Chief of the Ophthalmological Clinic, Washington University Dispensary.

5956 Cabanne Avenue

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A.B., St. Louis University, 1878; M.D., St. Louis Medical College, 1876; formerly Professor of Surgery, St. Louis University School of Medicine; Surgeon in Chief, Alexian Brothers' Hospital and Josephine Hospital, St. Louis; formerly Member Missouri State Board of Health; Member of Staff, Barnard Free Skin and Cancer Hospital.

Josephine Hospital

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M.D., Heidelberg, 1875; House Surgeon and Assistant Surgeon, New York Ophthalmic and Aural Institute, 1875-77; Member of the College of Physicians and Surgeons, Ontario, 1877; formerly Lecturer on Histology of the Eye and Ear, New York Ophthalmic and Aural Institute; Lecturer on Ophthalmology, Trinity Medical School, Toronto; Professor of Ophthalmology and Otology, Beaumont Hospital Medical College; Professor of Ophthalmology, Marion-Sims Beaumont School of Medicine; and Professor of Ophthalmology, St. Louis University School of Medicine; Consulting Oculist to City Hospital, St. Louis, 1881-83. Editor, American Journal of Ophthalmology.

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M.D., St. Louis Medical College, 1888; Interne, St. Louis City Hospital, 1888-92; Instructor in Urinology and in Clinical Medicine, 1891-98, and Lecturer on Laryngology, St. Louis Medical College, 1898-99, and Medical Department of Washington University, 1899-1905; Member of Staff of St. Luke's Hospital and Barnard Free Skin and Cancer Hospital. Laryngol-
ogist to the St. Louis Children's Hospital and the Barnes Hospital, and Chief of the Laryngological Clinic, Washington University Dispensary.

3542 Washington Avenue

MARTIN F. ENGMAN, M.D. . . . .Clinical Professor of Dermatology

M.D., University of New York, 1891; Interne, New York Skin and Cancer Hospital and Gouverneur Hospital, New York, 1891-93; Assistant to Skin Department, Demitl Dispensary, and Vanderbilt Clinic, New York, 1894; Lecturer on Dermatology, New York Post Graduate Medical School, 1894; Lecturer on Dermatology, St. Louis University, 1910-12; Member of the Hospital Board, City of St. Louis, 1912; President of the Medical Board, Barnard Free Skin and Cancer Hospital; Visiting Physician, St. Louis City Hospital. Dermatologist to the St. Louis Children's Hospital, and the Barnes Hospital, and Chief of the Dermatological Clinic, Washington University Dispensary.

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M.D., St. Louis Medical College, 1880; Interne, City Hospital and Female Hospital, St. Louis, 1880-81; Professor of Pathology and Bacteriology, Beaumont Medical College, 1900-01; Professor of Bacteriology, Marion-Sims Medical College, 1900-01; Pathologist, St. Mary's Infirmary, 1901-10, and Jewish Hospital 1904-10; Consulting Pathologist to St. Louis Mullanphy Hospital.

3635 Cleveland Avenue

WALTER E. GARREY, Ph.D., M.D. Associate Professor of Physiology

S.B., Lawrence College, 1894; Ph.D., University of Chicago, 1900; M.D., Rush Medical College, 1909; University Extension Instructor in Zoology, University of Chicago, 1894-96; Instructor in Science, Aurora High School; Instructor in Comparative Physiology, Marine Biological Laboratory, 1899-1914; Fellow and Assistant in Physiology, University of Chicago, 1898-1900; Professor of Physiology and Pharmacology, Cooper Medical College, 1900-1910; Investigator, United States Bureau of Fisheries, 1911.

4347 Forest Park Boulevard

GEORGE CANNY ROBINSON, M.D. . . Associate Professor of Medicine

A.B., Johns Hopkins University, 1899 and M.D., 1903; Assistant Demonstrator of Anatomy, Cornell University, Ithaca, New York, 1903-04; Resident Pathologist and Resident Physician, Pennsylvania Hospital,
1904-08; Director of the Pathological Laboratory, Presbyterian Hospital, Philadelphia, 1909-10; Resident Physician and Associate in Medicine, Hospital of the Rockefeller Institute, New York, 1910-13. Associate Physician to the Barnes Hospital and Chief of the Medical Clinic, Washington University Dispensary.

4914 Forest Park Boulevard

ALBERT E. TAUSSIG, M.D. . . . . . . Associate Professor of Medicine
A.B., Harvard University, 1891; M.D., St. Louis Medical College, 1894; Interne, St. Louis City Hospital, 1894-95; Professor of Physiology, 1909, Clinical Professor of Medicine, 1910-12, and Associate in Medicine, 1912-14, Washington University Medical School; Editor of the Medical Bulletin, Washington University, 1904-08; Member of the Staff of St. Luke’s Hospital; Co-editor Interstate Medical Journal; Visiting Physician, St. Louis City Hospital. Assistant Physician to the Barnes Hospital.

731 Metropolitan Building

VICTOR E. EMMEL, PH.D. . . . . . . Associate Professor of Anatomy
B.S., 1903, Pacific University, M.S., 1904; Ph.D., Brown University, 1907; Instructor in Biology, Pacific University, 1908-04; Assistant in Embryology and Neurology, Brown University, 1904-07; Austin Teaching Fellow in Anatomy, Harvard University Medical School, 1907-08; Instructor and Associate in Anatomy, Washington University Medical School, 1908-14; Biologist, Rhode Island Commission of Inland Fisheries, 1904-07.

1818 Lawrence Street

GEO. MILTON SMITH, M.D. . . . . . Associate Professor of Pathology
A.B., Yale University, 1901; M.D., Columbia University, 1905; Interne, Presbyterian Hospital, New York, 1905-07; Sloane Maternity Hospital, 1907, and New York Foundling Hospital, 1908-09; Instructor in Surgery, Columbia University, 1909-10; Associate in Pathology, Washington University Medical School, 1911-14. Associate Pathologist to the Barnes Hospital.

10 N. Kingshighway

ERNEST SACHS, M.D. . . . . . . . . . . . . . Associate Professor of Surgery
A.B., Harvard University, 1900; M.D., Johns Hopkins University, 1904; Interne, Mt. Sinai Hospital, New York, 1904-07; Clinical Clerk, National Hospital, London, 1908; Attending Neurological Surgeon to Montefiore Home and Beth Israel Hospitals, and Adjunct Assistant Attending Surgeon to Bellevue Hospital, New York, 1909-11; Associate in Surgery, Washington University Medical School, 1911-14; Consulting Surgeon to
City Sanitarium, St. Louis; Assistant Surgeon to the St. Louis Children's Hospital. Associate Surgeon to the Barnes Hospital, and Chief of the Surgical Clinic of the Washington University Dispensary.

5557 Berlin Avenue

Harry Sturgeon Crossen, M.D. Associate in Gynecology
M.D., Washington University Medical Department, 1882; Interne, St. Louis City Hospital, 1882-95; Superintendent and Surgeon in Charge, Female Hospital, St. Louis, 1895-99; Member and Chairman of the Gynecological Staff of the St. Louis City Hospital, 1910; Gynecologist, St. Luke's Hospital, St. Louis Mullanphy Hospital, Missouri Baptist Sanitarium, and Bethesda Hospital. Associate Gynecologist to the Barnes Hospital.

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A.B., Illinois College, 1892; A.M., 1898; M.D., Marion-Sims College of Medicine, 1895; Demonstrator of Pathological Anatomy, University of Berlin, 1896-97; Volunteer Assistant, University of Strassburg, 1897-98; Professor of Pathology, Marion-Sims College of Medicine, 1898-1901; Demonstrator and Professor of Experimental Surgery, Washington University Medical School, 1901-12; Member and Chairman of Surgical Staff, St. Louis City Hospital, 1910-12.

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Harry McCrindell Johnson, M.D.* Associate in Genito-Urinary Surgery
M.D., Tulane University, 1890; Interne, U. S. Marine Hospital, New Orleans, La., 1890; Dispensary Physician, Clinic for Genito-Urinary Surgery and Syphilis, O'Fallon Dispensary, 1891; Chief of Genito-Urinary Surgery, O'Fallon Dispensary, 1909; Clinical Professor of Genito-Urinary Surgery, Medical Department, Washington University, 1908-10; Assistant Surgeon, Washington University Hospital; Member of the St. Louis Board of Health, 1906-11; Associate Surgeon, Skin and Cancer Hospital, 1906; Chief of Genito-Urinary Surgery, St. Louis Mullanphy Hospital. Chief of the Clinic for Genito-Urinary Surgery, Washington University Dispensary.

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1898-95; formerly Surgeon to St. Louis City Hospital and City Sanitarium; Instructor in Practical Anatomy, Associate Professor of Anatomy and Clinical Professor of Surgery, Medical Department of Washington University, 1894-1912; Visiting Surgeon to St. Luke's Hospital and St. Louis Maternity Hospital; Consulting Surgeon, St. Louis Eye, Ear, Nose and Throat Infirmary. Assistant Surgeon to St. Louis Children's Hospital and the Barnes Hospital.

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A.B., Indiana University, 1905; A.M., 1906; Ph.D., 1908; M.D., Rush Medical College, 1913; Assistant in Physiology, Indiana University, 1904-06; Assistant in Pharmacology and Physiological Chemistry, University of Chicago, 1906-07; Instructor in Pharmacology, 1907-08, and Assistant Professor of Pharmacology and Physiology, Indiana University, 1908-10.

Euclid Avenue and Kingshighway

George Gellhorn, M.D. Associate in Gynecology
M.D., University of Wuerzburg, 1894; Assistant in Gynecology, University of Jena, 1898; Assistant in Gynecology, University of Vienna, 1899; Gynecologist to St. Luke's Hospital, St. Louis, 1901; Gynecologist to Barnard Free Skin and Cancer Hospital, St. Louis, 1905; Instructor and Lecturer in Gynecology, Washington University Medical School, 1904; Visiting Gynecologist to St. Louis City Hospital, 1910; Consulting Obstetrician to St. Louis Maternity Hospital, 1912; Visiting Surgeon, St. Louis City Hospital. Assistant Gynecologist to the Barnes Hospital.

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Fred J. Taussig, M.D. Associate in Gynecology
A.B., Harvard University, 1898; M.D., St. Louis Medical College, 1898; Intern and Assistant Superintendent, Female Hospital, St. Louis, 1898-1901; Instructor and Lecturer in Gynecology, Washington University
Medical School, 1906-09; Clinical Assistant, 1906-08, Surgeon to Out Patients, 1909-11, and Chief of Gynecological Out Patient Clinic, 1912-14, Washington University Hospital; Gynecologist, Barnard Free Skin and Cancer Hospital, St. Louis City Hospital, and City Sanitarium; Obstetrician, St. Louis Maternity Hospital; Visiting Surgeon, St. Louis City Hospital. Assistant Gynecologist to the Barnes Hospital.

4506 Maryland Avenue

NATHANIEL ALLISON, M.D. . . . . . . Associate in Orthopedic Surgery
M.D., Harvard University, 1901; Intern, Boston Children’s Hospital, 1901-02; Assistant, Instructor, and Clinical Lecturer on Orthopedic Surgery, Washington University Medical School, 1904-08; Orthopedic Surgeon to Martha Parsons Free Hospital for Children, 1908-09; Surgeon to St. Louis City Hospital, 1910-12; Orthopedic Surgeon to St. Luke’s Hospital; Co-editor, American Journal of Orthopedic Surgery, and Interstate Medical Journal. Associate Surgeon, St. Louis Children’s Hospital and Chief of the Orthopedic Clinic, Washington University Dispensary.

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BORDEN S. VEEDE, M.D. . . . . . . Associate in Pediatrics
M.D., University of Pennsylvania, 1907; Intern, University of Pennsylvania Hospital, 1907-08; Pathologist, St. Christopher’s Hospital, Philadelphia, 1909-11; Assistant Pathologist, General Hospital, Philadelphia, 1909-11; Medical Director, Babies’ Hospital, Philadelphia, 1911; Assistant Demonstrator in Pathology, University of Pennsylvania, 1909-11; Consulting Physician, St. Louis City Hospital and Infectious Disease Hospital. Associate Physician in Charge of Medical Service, St. Louis Children’s Hospital and Chief of Pediatric Clinic, Washington University Dispensary.

Euclid Avenue and Kingshighway

SIDNEY I. SCHWAB, M.D. . . . . . . Associate in Neurology
M.D., Harvard University, 1896; Professor of Nervous and Mental Diseases, St. Louis University, 1904-12; Non-resident Lecturer on Nervous
and Mental Diseases, University of Missouri School of Medicine, 1909-10; Visiting Neurologist to the St. Louis City Hospital and Sanitarium, 1909-18; Visiting Neurologist to the Jewish Hospital. Neurologist to the Barnes Hospital and Chief of the Neurological Clinic of the Washington University Dispensary.

Humboldt Building

CHARLES H. DANFORTH, PH.D. . . . . . . . Associate in Anatomy
A.B. Tufts College, 1908; A.M., 1910; Ph.D., Washington University, 1912; Assistant in Botany, Tufts College, 1906-08; Olmstead Fellow in Biology, Tufts College, 1908; Instructor in Biology, Tufts College, 1910-11; Teaching Fellow, Harvard University Medical School, 1910-11; Instructor in Anatomy, Washington University Medical School, 1908-14.

Euclid Avenue and Kingshighway

WALTER S. THOMAS, M.D. . . . . . . . . . . . . . . . . . . . . . . . . . Associate in Pathology
M.D., University of Texas, 1906; Interne, St. Joseph's Infirmary, Houston, 1906-07; Assistant in Surgical Pathology, Fellow in Pathology and Assistant in Pathology, Johns Hopkins University Medical School, 1906-10; Instructor in Pathology, Washington University Medical School, 1910-14. Assistant Pathologist to the Barnes Hospital.

4960 Washington Avenue

J. LUCIEN MORRIS, PH.D. . . . . . . . . . . . . . . . . . . . . . . . Associate in Biological Chemistry
B.S., Hanover College, Hanover, Ind., 1907; A.M., Harvard University, 1911, Ph.D., 1914; Assistant in Sciences, Park College, Parkville, Mo., 1907-08; Professor of Natural Sciences, Hillsdale College, Hillsdale, Mich., 1908-11; Austin Teaching Fellow, Harvard University, 1912-13; Assistant in charge of Biochemical Laboratory, Harvard University, 1918-14; Acting Chemist, Harvard Cancer Commission, 1912-14.

5274 Waterman Avenue

FRANCIS MERRIMAN BARNES, JR., M.D. . . . . . . . . . . . . . . . . . . . Associate in Psychiatry
A.B., 1903, A.M., 1906, Hamilton College, Clinton, N. Y.; M.D., Johns Hopkins University, Baltimore, 1907; Interne, Sheppard and Enoch Pratt Hospital for Nervous and Mental Diseases, Baltimore, 1907; Assistant Physician and Director of Clinical Laboratory, Sheppard and Enoch Pratt Hospital, 1907-10; Interne, 1910, Junior Assistant, 1910-11; Assistant Physician, 1911, Senior Assistant Physician, 1912, Clinical Director, 1912-13, Government Hospital for the Insane, Washington, D. C.; Instructor in Neurology and Psychiatry, George Washington University, Washington, D. C., 1911-18; Assistant Professor of Nervous and Mental Diseases, St. Louis University, 1918-14; Neurologist, St. Mary's
Humboldt Building

MALCOLM A. BLISS, M.D. ................. Instructor in Psychiatry
D.D.S., Missouri Dental College, 1884; M.D., Northwestern University, 1890; Lecturer on Neurology and Instructor in Psychiatry, Washington University Medical School, 1902-10; Visiting Physician, St. Louis City Hospital and Consulting Physician, City Sanitarium.

Humboldt Building

WALTER BAUMGARTEN, M.D. ............. Instructor in Medicine
A.B., Johns Hopkins University, Baltimore, 1894; M.D., St. Louis Medical College, 1896; Interne, Female Hospital and St. Louis City Hospital, 1896-97; Assistant in Physiology, Harvard University Medical School, 1897-98; Assistant in Medicine, Johns Hopkins University Medical School, 1902-08; Instructor in Clinical Chemistry and Microscopy, Washington University Medical School, 1903-06; Member of the Medical Staff, St. Louis Maternity Hospital, 1908-18; Member of the Medical Staff, St. Luke's Hospital, and St. Louis Mullanphy Hospital.

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CLEVELAND A. NEWTON, LL.B. Instructor in Medical Jurisprudence
LL.B., University of Missouri, 1902; Member of Missouri Legislature and Chairman of the Committee on Judiciary, 1906; Assistant United States Attorney, Western District of Missouri, 1905-07; Assistant Circuit Attorney of the City of St. Louis, 1907-11; Special Assistant to the Attorney General of the United States, 1911-13.

Security Building

WILLIAM E. SAUER, M.D. ............. Instructor in Laryngology
M.D., Medical Department of Washington University, 1896; Interne, St. Louis City Hospital and Female Hospital, 1896-97; Assistant Physician, St. Louis Insane Asylum, 1897-98; Clinical Instructor in Laryngology, Medical Department of Washington University, 1906-11; Clinical Assistant, 1907-09, Surgeon to Out Patients, 1909-11, and Chief of Laryngological Out Patient Clinic, 1912-14, Washington University Hospital; Otologist and Laryngologist to St. Louis Mullanphy Hospital and Bethesda Hospital; Laryngologist to St. Louis Maternity Hospital; Visiting Surgeon, St. Louis City Hospital.

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A.B., Amherst College, 1899; M.D., Johns Hopkins University, 1904; Resident House Officer, Johns Hopkins Hospital, 1904-05; Assistant Resident Obstetrician and Resident Obstetrician, Johns Hopkins Hospital, 1904-09; Assistant and Instructor in Obstetrics, Johns Hopkins University Medical School, 1907-09; Surgeon to Out Patients, 1910-11, Assistant Obstetrician, 1912-14, Washington University Hospital; Physician in Charge, St. Louis Maternity Hospital.

JOHN R. CAULK, M.D. Instructor in Genito-Urinary Surgery
A.B., St. John's College, 1901; A.M., 1912; M.D., Johns Hopkins Medical School, 1906; Interne and Second Assistant Resident Physician, Union Protestant Infirmary, Baltimore, 1906-07; Assistant Resident Surgeon, Johns Hopkins Hospital, 1908-10; Genito-Urinary Surgeon to Bethesda Hospital and St. Luke's Hospital, and Associate Genito-Urinary Surgeon to St. Louis Mullanphy Hospital. Assistant Surgeon to the Barnes Hospital and Surgeon to Out Patients, Washington University Dispensary.

ROBERT A. GESELL, M.D. Instructor in Physiology
A.B., University of Wisconsin, 1910; Assistant in Zoology, University of Wisconsin, 1909-10; Assistant in Physiology, Washington University Medical School, 1910-12.

WILLIAM H. MOOK, M.D. Instructor in Dermatology
M.D., Beaumont Medical College, 1900; Interne, St. Louis City Hospital, 1900-01; Physician, Smallpox Quarantine, St. Louis, 1901-02; Interne, New York Skin and Cancer Hospital, 1903-05; Associate Professor of Dermatology, St. Louis University, 1910-12; Visiting Dermatologist, St. Louis City Hospital, 1910-12; Associate Physician, Barnard Free Skin and Cancer Hospital; Dermatologist, Missouri Pacific Railway Hospital; Visiting Physician, St. Louis City Hospital. Physician to Out Patients, Washington University Dispensary.

RALPH WALTER MILLS, M.D. Instructor in Medicine
B.S., University of Illinois, 1899; M.D., Marion-Sims Medical College, 1902; Interne, Alexian Brothers Hospital, St. Louis, 1902-03; Assistant in Pathology, 1904-05, and Instructor in Dietetics, 1908-12, Washington University Medical School. Assistant Physician to the Barnes Hospital and Physician to Out Patients, Washington University Dispensary.
ALBERT F. KOETTER, M.D. ............... Instructor in Otology
M.D., Missouri Medical College, 1892; Interne, Frauen Hospital, Dresden, 1894; Assistant in Otology, Washington University Medical School, 1910-14; Member of Staff, Deaconess Hospital, St. Louis. Surgeon to Out Patients, Washington University Dispensary.

OLIVIA BUILDING

FREDERICK T. FAHLEN, M.D. ............... Instructor in Medicine
M.D., Washington University Medical School, 1903; Interne, St. Louis Mullanphy Hospital, 1902-03; Assistant in Medicine, Washington University Medical School, 1910-14; Chief of Laboratory and Member of Staff, St. Louis Mullanphy Hospital; Visiting Physician, St. Louis City Hospital.

5594 Bartmer Avenue

JEROME E. COOK, M.D. ..................... Instructor in Medicine
M.D., Washington University Medical School, 1905; Assistant Physician, St. Louis City Hospital, 1905-06; Professor of Bacteriology and General Pathology, Washington University Dental School; Assistant in Medicine, Washington University Medical School, 1910-11; Associate Physician to the Jewish Hospital; Visiting Physician, St. Louis City Hospital. Assistant Physician to the Barnes Hospital.

METROPOLITAN BUILDING

ARTHUR O. FISHER, M.D. ............... Instructor in Surgery
A.B., University of Wisconsin, 1905; M.D., Johns Hopkins University, 1909; Resident House Officer, Johns Hopkins Hospital, 1909-10; Assistant Resident Surgeon, Johns Hopkins Hospital, 1910-11; Assistant in Surgery, Washington University Medical School, 1911-14; Visiting Surgeon, St. Louis City Hospital. Assistant Surgeon to the Barnes Hospital and Surgeon to Out Patients, Washington University Dispensary.

4960 Washington Boulevard

LELAND BARTON ALFORD, M.D. ............... Instructor in Neurology
A.B., University of Missouri, 1908; M.D., Washington University Medical School, 1912; Acting Pathologist and Research Officer, Mason State Hospital, Palmer, Mass., 1910-11; Interne, Telfair Hospital, Savannah, 1912; Assistant in Pathology, Washington University Medical School, 1912-14. Physician to Out Patients, Washington University Dispensary.

5024 Washington Avenue
EDWIN A. BAUMGARTNER, A.M.  Instructor in Anatomy
A.B., University of Kansas, 1910, A.M., 1911; Fellow in Histology, University of Kansas, 1910-11; Instructor in Anatomy, University of Wisconsin, 1911-12; Instructor in Histology, Embryology, and Anatomy, University of Minnesota, 1912-14.
23 S. Euclid Avenue

ADRIEN S. BLEYER, M.D.  Assistant in Pediatrics
M.D., Missouri Medical College, 1899; Assistant Physician, St. Louis City Hospital, 1899-1900, and Female Hospital, 1900-01; Lecturer on Hygiene, Medical Department of Washington University, 1907-11; Lecturer on Preventive Medicine, Washington University Medical School, 1912-; Editor, Medical Bulletin of Washington University, 1907-08; Visiting Physician, St. Louis City Hospital. Assistant Physician to Out Patients, Washington University Dispensary.
706 North Kingshighway

ADOLPH G. SCHLOSSSTEIN, M.D.  Assistant in Obstetrics
M.D., St. Louis Medical College, 1894; Interne, St. Louis City Hospital, Female Hospital and Physician to City Dispensary, 1894-96; Interne, Frauenklinik, Munich, 1897; Clinical Assistant, Instructor and Lecturer, Washington University Medical School, 1899-1912. Assistant Obstetrician to the Barnes Hospital.
3153 Longfellow Boulevard

JAMES ARCHER O'REILLY, M.D.  Assistant in Orthopedic Surgery
A.B., Harvard University, 1902; M.D., 1906; Interne, Carney Hospital, Boston, 1906-07; Assistant in Orthopedic Clinic, Children's Hospital, Boston; Instructor in Orthopedic Surgery, St. Louis University Medical School, 1907-11; Orthopedic Surgeon to St. John's Hospital, Rebekah Hospital and Mt. St. Rose Hospital; Visiting Surgeon, St. Louis City Hospital. Assistant Surgeon, St. Louis Children's Hospital and Surgeon to Out Patients, Washington University Dispensary.
Metropolitan Building

LOUIS HENRY HEMPELMANN, M.D.  Assistant in Medicine
M.D., Medical Department of Washington University, 1896; Interne, St. Louis City Hospital and City Insane Asylum, 1896-98; Assistant Superintendent, Insane Asylum, 1898; Instructor in Clinical Medicine, Washington University Medical School, 1904-12; Consultant to St. Louis City Hospital, 1909-11; Visiting Physician to St. Louis Mullanphy Hospital and Deaconess Hospital.
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JULIUS H. GROSS, M.D. ................ Assistant in Ophthalmology
M.D., Medical Department of Washington University, 1893; Interne, City Infirmary, St. Louis, 1898-95; Volunteer Assistant at Eye Clinic, University of Kiel, 1899; Instructor in Ophthalmology, Washington University Medical School, 1909; Visiting Surgeon, St. Louis City Hospital. Surgeon to Out Patients, Washington University Dispensary.

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WALTER FISCHEL, M.D. ................ Assistant in Medicine
A.B., Harvard University, 1902; M.D., Washington University Medical School, 1905; Assistant Physician, St. Louis City Hospital, 1905-06; Clinical Assistant, 1906-09, Physician to Out Patients, 1909-14, Washington University Hospital; Associate Physician, Barnard Free Skin and Cancer Hospital; Visiting Physician, St. Louis City Hospital. Assistant Physician to the Barnes Hospital.

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WILLIAM H. VOGT, M.D. ................ Assistant in Obstetrics
M.D., Missouri Medical College, 1897; Interne, Female Hospital, 1897-98, and City Infirmary, St. Louis, 1898-99; Surgeon to Out Patients, 1910-11, Assistant Obstetrician, 1912-14, Washington University Hospital; Gynecologist and Obstetrician, Lutheran Hospital, St. Louis; Consulting Obstetrician, St. Louis Maternity Hospital.

Metropolitan Building

RICHARD H. McBAINE, M.D. ............ Assistant in Medicine
A.B., University of Missouri, 1903; M.D., Columbia University, 1907; Interne, Presbyterian Hospital, New York, 1908-10; Visiting Physician, St. Louis City Hospital. Physician to Out Patients, Washington University Dispensary.

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JOHN GREEN, Je., M.D. ............... Assistant in Ophthalmology
A.B., Harvard University, 1894; M.D., St. Louis Medical College, 1898; Assistant Physician, St. Louis City Hospital, 1898-99; Consulting Oculist, Female Hospital, St. Louis, 1904-06; Clinical Assistant in Ophthalmology, Jewish Hospital Dispensary, 1904-06; Ophthalmic Surgeon, Social Services Hospital, 1908-11; Ophthalmic Surgeon, St. Louis City Hospital, 1910-12; Consulting Ophthalmic Surgeon, St. Louis Maternity Hospital, St. John's Hospital and City Sanitarium; Ophthalmic Surgeon, St. Louis Eye, Ear, Nose and Throat Infirmary. Surgeon to Out Patients, Washington University Dispensary.

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THE MEDICAL SCHOOL.

BARNEY BROOKS, M.D. .................. Assistant in Surgery
B.S., University of Texas, 1905; M.D., Johns Hopkins University, 1911; Resident House Officer, Johns Hopkins Hospital, 1911-12. Resident Surgeon, Barnes Hospital.
Barnes Hospital

PHILIP C. JEANS, M.D. ................. Assistant in Pediatrics
A.B., University of Kansas, 1904; M.D., Johns Hopkins University, 1909; Student Instructor in Chemistry, University of Kansas, 1902-04; Interne, Garrett Hospital for Children, Baltimore, 1909, Hartford Hospital, Hartford, 1909-10, Children's Hospital, Boston, 1910-11, Floating Hospital, Boston, 1911, and City Hospital, Boston, 1911-12; Resident Physician, St. Louis Children's Hospital, 1912-13; Visiting Physician, Infectious Disease Hospital, St. Louis. Assistant Physician, St. Louis Children's Hospital and Physician to Out Patients, Washington University Dispensary.
St. Louis Children's Hospital

H. EDWARD MILLER, M.D. Assistant in Laryngology and Rhinology
M.D., Washington University Medical Department, 1902; Interne, St. Louis City Hospital, 1902-03; First Lieutenant, Medical Reserve Corps, U. S. A. Surgeon to Out Patients, Washington University Dispensary.
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GRANDISON DELANEY ROYSTON, M.D. Assistant in Obstetrics
M.D., Washington University Medical School, 1907; Junior and Senior Obstetrical Resident, Washington University Hospital, 1907-09; Formerly Assistant Superintendent, St. Louis Female Hospital; Member of Medical Staff, St. Louis Maternity Hospital. Assistant Obstetrician to the Barnes Hospital and Chief of Obstetrical Clinic, Washington University Dispensary.
3700 Westminster Place

HUGH MCCULLOCH, M.D. .................. Assistant in Medicine
A.B., University of Arkansas, 1908; M.D., Johns Hopkins Medical School, 1912; Resident House Officer, Washington University Hospital, 1912-13. Resident Physician, Barnes Hospital.
Barnes Hospital

THEODORE CARL HEMPELMANN, M.D. Assistant in Pediatrics
M.D., Washington University Medical School, 1908; Interne, St. Louis City Hospital, 1908-09; Assistant Physician to Out Patients, St. Louis
Roland Frederick Fisher, M.D. Assistant in Surgery
B.S., University of Wisconsin, 1909; M.D., Johns Hopkins Medical School, 1912; Interne, Washington University Hospital, 1912-14; Student Assistant in Physiology, Johns Hopkins Medical School, 1912.

4922 Washington Avenue

Llewellyn Sale, M.D. Assistant in Medicine
M.D., Washington University Medical School, 1907; Interne, St. Louis City Hospital, 1907-08; Assistant Professor, St. Louis University School of Medicine, 1910-14; formerly Consulting Physician, St. Louis City Hospital; Associate Physician, Jewish Hospital, St. Louis. Physician to Out Patients, Washington University Dispensary.

Louis Kaufman Guggenheim, M.D. Assistant in Otology
M.D., Washington University Medical Department, 1905; Interne, St. Louis City Hospital, 1905-06; Assistant in Charge of Ophthalmological Clinic, St. Louis University Medical School, 1909. Surgeon to Out Patients, Washington University Dispensary.

Meredith Rutherford Johnston, M.D. Assistant in Pediatrics
M.D., Washington University Medical School, 1913; Interne, Washington University and St. Louis Children’s Hospitals, 1913-14, and Boston Floating Hospital, 1914. Resident Physician, St. Louis Children’s Hospital.

Harry W. Lyman, M.D. Assistant in Otology
M.D., St. Louis College of Physicians and Surgeons, 1895; Interne, St. Louis City Hospital, 1895-96; Clinical Clerk, London Hospital, 1900; Assistant, St. Louis College of Physicians and Surgeons, 1895-96; formerly Consulting Otolist, St. Louis City Hospital; Demonstrator and Professor of Anatomy, St. Louis College of Physicians and Surgeons, 1900-07. Surgeon to Out Patients, Washington University Dispensary.
WILLIAM EWING SHAHAN, M.D. . . . . Assistant in Ophthalmology
A.B., Washington University, 1901; A.M., 1912; M.D., Washington University Medical Department, 1904; Instructor in Chemistry, Washington University Medical Department, 1903; Editor, Ophthalmic Section, St. Louis Medical Society, 1912. Surgeon to Out Patients, Washington University Dispensary.

Metropolitan Building

QUITMAN UNDERWOOD NEWELL, M.D. . . . . Assistant in Obstetrics
M.D., University of Alabama School of Medicine, 1911; Interne, Southern Infirmary, Mobile, 1911; House Officer, Washington University Hospital, 1911-12; Resident Obstetrician and Gynecologist, Washington University Hospital, 1912-14.

3657 Delmar Avenue

HOWARD HOMER BELL, M.D. . . . . . . Assistant in Pathology
M.D., University of Pennsylvania, 1912; Interne, Harrisburg General Hospital, 1912-1913; Assistant in Pathology and Bacteriology, University of Alabama School of Medicine, 1913-14.

Euclid Avenue and Kingshighway

R. E. LEE GUNNING, JR., A.B. Assistant in Physiology and Pharmacology
A.B., University of Kansas, 1914; Assistant in Physiology and Pharmacology, University of Kansas School of Medicine, 1913-14.

4543 Clayton Avenue

ROGER SANFORD HUBBARD, A.M. Assistant in Biological Chemistry
A.B., Harvard University, 1911, A.M., 1912; Assistant in Qualitative Analysis, Harvard University, 1911-12; Austin Teaching Fellow in Biochemistry, Harvard University, 1913-14.

Washington University

ROBERT ERNEST SCHLUETER, M.D. . . . . . . Assistant in Surgery
M.D., Missouri Medical College, 1895; Instructor in Physiology, 1896-99, and Lecturer in Pharmacy, 1897-99, Missouri Medical College; Assistant in Surgery, St. John's Hospital, St. Louis, 1895-1903; Surgeon, Good Samaritan Hospital, St. Louis, 1905; Assistant Surgeon to Out Patients, 1908-08, Chief of the Surgical Clinic, 1908-11, O'Fallon Dispensary;
Instructor in Surgery, Washington University Medical School, 1908-11; Surgeon, Lutheran Hospital, St. Louis, 1912-15; Visiting Surgeon, St. Louis City Hospital.

WALTER C. G. KIRCHNER, M.D. . . . . . . . . . . . . . . Assistant in Surgery
A.B., Washington University, 1897; M.D., Washington University Medical Department, 1901; Assistant Bacteriologist, Health Department, St. Louis, 1901; Intern, 1901-03, Assistant Superintendent, 1903-07, Superintendent and Surgeon in Charge, 1907-10, St. Louis City Hospital; formerly Instructor in Bacteriology, Washington University Medical Department; Consulting Surgeon, St. John's Hospital, and Eye, Ear, Nose and Throat Infirmary, St. Louis; Visiting Surgeon, St. Louis City Hospital.

CHARLES ELIHU HYNDMAN, M.D. . . . . . . . . . . . . . . Assistant in Surgery
M.D., Washington University Medical School, 1906; Intern, St. Louis City Hospital, 1906-07, St. Luke's Hospital, St. Louis, 1907-08; Assistant in Surgery, Barnard Free Skin and Cancer Hospital, 1908-12; Assistant Surgeon to Out Patients, St. Louis Children's Hospital, 1910-14; Assistant in Surgery, St. Louis Mullanphy Hospital; Visiting Surgeon, St. Louis City Hospital.

PHELPS GRANT HURFORD, M.D. . . . . . . . . . . . . . . Assistant in Pediatrics
M.D., Washington University Medical School, 1908; Intern, Washington University Hospital, 1907-08, St. Louis City Hospital, 1908-09; Assistant Surgeon to Out Patients, St. Louis Children's Hospital, 1910-14; Visiting Physician, Infectious Disease Hospital, St. Louis. Physician to Out Patients, Washington University Dispensary.

CHARLES ALLEN STONE, M.D. Assistant in Orthopedic Surgery
B.S., Blackburn College, Carlinville, Ill., 1904; M.D., Washington University Medical School, 1908; Intern, Martha Parsons Free Hospital for Children, St. Louis, 1908-09; Assistant Surgeon to Out Patients, Martha Parsons Free Hospital for Children and St. Louis Children's Hospital, 1908-14; Visiting Surgeon, St. Louis City Hospital. Assistant Surgeon to Out Patients, Washington University Dispensary.
DANIEL FRANK HOCHDOERFER, M.D. .... Assistant in Pathology
M.D., Beaumont Hospital Medical College, 1889; Interne, Alexian Brothers Hospital, St. Louis, Infirmary, St. Louis, 1889-90; formerly Attending Physician, Alexian Brothers Hospital. Autopsy Physician to the Coroner, St. Louis.

3405 Pestalozzi Street

WILLIAM M. ROBERTSON, M.D. ............ Assistant in Surgery
M.D., University of Virginia, Charlottesville, 1889; Interne, New York City Hospital, 1890-91; Instructor in Genito-Urinary Surgery, Medical Department of Washington University, 1905-11; Associate Genito-Urinary Surgeon, St. Louis Mullanphy Hospital, 1904-08; Surgeon to Out Patients, Washington University Hospital and Dispensary, 1905-11; Visiting Surgeon, St. Louis City Hospital.

Humboldt Building

HENRY MCCLURE YOUNG, M.D. ............ Assistant in Surgery
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Jacob J. Singer, M.D.
Selig Simon, M.D.
J. W. Larimore, M.D.
F. D. Gorham, M.D.

Assistant Physicians to Out Patients
Surgery
Ernest Sachs, M.D. .............. Chief of Clinic
A. O. Fisher, M.D. .............. Surgeon to Out Patients
F. L. Davis, M.D.
L. C. Stocking, M.D.
Benjamin F. May, M.D.
T. M. Davis, M.D. .............. Assistant Surgeons to Out Patients

Obstetrics and Gynecology
G. D. Royston, M.D. .............. Chief of Clinic
D. R. Parman, M.D.
W. L. Clapper, M.D.
William Kerwin, M.D.
R. M. Spiwy, M.D. .............. Assistant Surgeons to Out Patients

Pediatrics
Borden S. Veeder, M.D. .............. Chief of Clinic
Philip C. Jeans, M.D.
T. C. Hempelmann, M.D.
Adrien S. Bleyer, M.D.
P. G. Hurford, M.D.
J. L. Swarts, M.D. .............. Assistant Physicians to Out Patients

Neurology
Sidney I. Schwab, M.D. .............. Chief of Clinic
L. B. Alford, M.D. .............. Physician to Out Patients

Dermatology
Martin F. Engman, M.D. .............. Chief of Clinic
William H. Mook, M.D. .............. Physician to Out Patients
Richard Weiss, M.D.
Rudolph Buhman, M.D.
Joseph S. Waldman, M.D. .............. Assistant Physicians to Out Patients

Orthopedic Surgery
Nathaniel Allison, M.D. .............. Chief of Clinic
Archer O'Reilly, M.D. .............. Surgeon to Out Patients
Charles A. Stone, M.D.
M. L. Klinefelter, M.D.
F. W. Ewerhardt, M.D. .............. Assistant Surgeons to Out Patients
Ophthalmology

A. E. Ewing, M.D. .... Chief of Clinic
Adolf Alt, M.D.
Meyer Wiener, M.D.
Julius H. Gross, M.D.
John Green, Jr., M.D.
W. E. Shahan, M.D.
W. F. Hardy, M.D.
F. O. Schwartz, M.D.
F. P. Parker, M.D.
W. C. Owen, M.D
J. A. Flury, M.D.
M. Hayward Post, M.D.
H. D. Lamb, M.D.
W. C. Tooker, M.D.

Surgeons to Out Patients

Otology

John B. Shapleigh, M.D. .... Chief of Clinic
Albert F. Koetter, M.D.
Harry W. Lyman, M.D.
Louis K. Guggenheim, M.D.
George A. Griot, M.D.
A. J. Griot, M.D.
D. E. Furnall, M.D.

Surgeons to Out Patients

Laryngology

Greenfield Sluder, M.D. .... Chief of Clinic
H. E. Miller, M.D.
C. A. Gundelach, M.D.
F. G. A. Bardenheier, M.D.
M. F. Arbuckle, M.D.

Surgeons to Out Patients

Assistant Surgeons to Out Patients

Genito-Urinary Surgery

Harry McC. Johnson, M.D. .... Chief of Clinic
John R. Caulk, M.D.
H. McC. Young, M.D.

Surgeons to Out Patients
THE MEDICAL SCHOOL.

D. B. Garstang, M.D.
N. W. Amos, M.D.
H. G. Greditzer, M.D.
Ellis Fischel, M.D.  Assistant Surgeons to Out Patients

ST. LOUIS CHILDREN'S HOSPITAL

Committee for the St. Louis Children's Hospital
Fred T. Murphy, M.D. Surgeon in Chief
Eugene L. Opie, M.D. Pathologist
Borden S. Veeder, M.D. Associate Physician in Charge of the Medical Service

Pediatrics
George M. Tuttle, M.D. Consulting Physician
Borden S. Veeder, M.D. Associate Physician in Charge of the Medical Service
Philip C. Jeans, M.D.  Assistant Physicians
T. C. Hempelmann, M.D.
M. R. Johnston, M.D. Resident Physician

Surgery
Malvern B. Clopton, M.D. Associate Surgeons
Nathaniel Allison, M.D.
Archer O'Reilly, M.D.
Vilray P. Blair, M.D. Assistant Surgeons
Ernest Sachs, M.D.

Special Departments
J. B. Shapleigh, M.D. Otologist
A. E. Ewing, M.D. Ophthalmologist
Greenfield Sluder, M.D. Laryngologist
M. F. Engman, M.D. Dermatologist
Sidney I. Schwab, M.D. Neurologist

Social Service
Elsa M. Butler, A.M. Head Worker
CITY HOSPITAL

Visiting Physicians and Surgeons at the City Hospital* and other City institutions are designated by Washington University to act as follows:

**Medicine**

George Dock, M.D. Consulting Physician
Albert E. Taussig, M.D. Chief of Staff
Jerome E. Cook, M.D.
Frederick T. Fahlen, M.D.
Walter Fischel, M.D.
Richard H. McBaine, M.D.
O. H. Campbell, M.D.

**Surgery**

Fred T. Murphy, M.D. Consulting Surgeon
A. O. Fisher, M.D. Chief of Staff
Robert E. Schlueter, M.D.
W. C. G. Kirchner, M.D. Associate Surgeons
C. E. Hyndman, M.D.

**Obstetrics and Gynecology**

Henry Schwarz, M.D. Consulting Surgeon
George Gellhorn, M.D. Chief of Staff
Fred J. Taussig, M.D.
William Kerwin, M.D. Associate Surgeons
R. M. Spivy, M.D.

**Pediatrics**

Borden S. Veeder, M.D. Consulting Physician
T. C. Hempelmann, M.D. Chief of Staff
A. S. Bleyer, M.D. Associate Physician

**Neurology**

Malcolm A. Bliss, M.D. Associate Physicians
Francis Barnes, M.D.

**Dermatology**

M. F. Engman, M.D. Chief of Staff
William H. Mook, M.D. Associate Physician

* Appointed by the City upon the nomination of the University.
Ophthalmology
Meyer Wiener, M.D. . . . . . . Chief of Staff
Julius H. Gross, M.D. . . . . . . Associate Surgeon

Laryngology and Otology
W. E. Sauer, M.D. . . . . . . Chief of Staff
W. L. Johnson, M.D. . . . . . . Associate Surgeon

Orthopedic Surgery
Archer O'Reilly, M.D. . . . . . . Chief of Staff
Charles A. Stone, M.D. . . . . . . Associate Surgeon

Genito-Urinary Surgery
William M. Robertson, M.D. . . . . . . Chief of Staff
H. McC. Young, M.D. . . . . . . Associate Surgeons
D. B. Garstang, M.D. . . . . . . Associate Surgeons

Dental Service
J. H. Kennerly, M.D., D.D.S. . . . . . . Dentist

Infectious Disease Hospital
Borden S. Veeder, M.D. . . . . . . Consulting Physician
T. C. Hempelmann, M.D. . . . . . . Chief of Staff
P. C. Jeans, M.D. . . . . . . Associate Physicians
P. G. Hurford, M.D. . . . . . . Associate Physicians

City Sanitarium
Malcolm A. Bliss, M.D. . . . . . . Consulting Physician

ST. LOUIS MULLANPHY HOSPITAL
Norman B. Carson, M.D., President
Malcolm A. Bliss, M.D., Secretary

Surgery
Norman B. Carson, M.D. . . . . . . Surgeon in Chief
Malvern B. Clopton, M.D. . . . . . . Associate in Surgery
C. E. Hyndman, M.D. . . . . . . Assistant in Surgery

Medicine
Elsworth S. Smith, M.D. . . . . . . Physician in Chief
Louis H. Hempelmann, M.D. . . . . . . Associates in Medicine
Frederick T. Fahlen, M.D. . . . . . . Associates in Medicine
Walter Baumgarten, M.D. . . . . . . Associates in Medicine
Leo C. Huelsmann, M.D. . . . . . First Assistant in Medicine
E. L. Sheahan, M.D. } . . . . . Assistants in Medicine
J. J. Barry, M.D.

Neurology
Malcolm A. Bliss, M.D. . . . . . Neurologist in Chief

Genito-Urinary Surgery
Harry McC. Johnson, M.D. . . . . . Chief of Department
John R. Caulk, M.D. . . . . . Associate
D. B. Garstang, M.D. . . . . . Assistant

Ophthalmology
Adolf Alt, M.D. . . . . . Chief of Department
J. G. Calhoun, M.D. . . . . . Assistant

Laryngology and Otology
William E. Sauer, M.D. . . . . . Chief of Department
S. S. Burns, M.D. . . . . . Associate
A. F. Dames, M.D. . . . . . Assistant

Laboratory
Ernst F. Tiedemann, M.D. . . . . . Consulting Pathologist
J. J. Barry, M.D. . . . . . Director of Pathological Laboratory
STUDENTS, 1914-15

STUDENTS ATTENDING GRADUATE AND SPECIAL COURSES

Alvey, William Frank .................................................. Paducah, Ky.
M.D., U. S. Grant University, 1898.
Arnold, Lloyd ......................................................... Kinmundy, Ill.
Freels, Arthur McDonald .............................................. Denison, Tex.
M.D., Washington University Medical Department, 1907.
Gillis, Frank P ......................................................... DuQuoin, Ill.
M.D., Missouri Medical College, 1876.
Hamilton, Claude D .................................................... Sykesville, Ind.
M.D., College of Physicians and Surgeons, Baltimore, 1912.
LeGrand, Daniel Wesley .............................................. East St. Louis, Ill.
M.D., Washington University Medical Department, 1901.
Mayfield, John Jefferson .............................................. Jackson, Mo.
M.D., College of Physicians and Surgeons, St. Louis, 1885.
McKean, Thomas Jeremiah ........................................... Linn Grove, Ind.
M.D., Medical College of Indiana, 1905.
Pabor, Julia Sophia, R.N .............................................. Kirkwood, Mo.
Rothman, Henry Leo .................................................. St. Louis
M.D., St. Louis University School of Medicine, 1913.
Rothman, Paul Maurice ............................................... St. Louis
M.D., Washington University Medical Department, 1902.
Russell, Thomas J ..................................................... St. Louis
M.D., Missouri Medical College, 1893.
Stofer, John W ......................................................... Heaton, N. M.
M.D., University Medical College of Kansas City, Mo., 1908.
Wilson, Robert Manton ............................................... Columbus, Ark.
M.D., Washington University Medical Department, 1905.

CANDIDATE FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

Shackelford, Horace Harvey .......................................... St. Louis
A.B., University of Missouri, 1910; A.M., 1913.

SPECIAL STUDENTS

Day, Anthony Bigelow ................................................. St. Louis
B.S., Harvard University, 1913.
Sunwall, James Oscar ............................. Minneapolis, Minn.

FOURTH YEAR CLASS

Allen, Charles Curtis ............................ Lawrence, Kans.
Alsup, Frederick Franklin ....................... Morrisville, Mo.
Bechtold, Edmond ................................ Belleville, Ill.
Bock, Lux Hugo ................................. St. Louis
Bradford, Oscar Franklin ....................... Sedalia, Mo.
   A.B., University of Missouri, 1913.
Brown, Damon Alonzo ............................ Madison, Wis.
   B.S., University of Wisconsin, 1913.
Colby, Buford Monroe ............................ Norborne, Mo.
   A.B., University of Missouri, 1913.
Cramb, Arthur Benjamin ......................... University Place, Neb.
   A.B., University of Nebraska, 1908.
Dixon, Elliott Knight ........................... St. Louis
Foulon, Irenaeus Lister ......................... East St. Louis, Ill.
Fuson, Levi Harrison ............................ Bogota, Ill.
James, William Bonner ........................... Joplin, Mo.
   A.B., University of Missouri, 1913.
Jones, Harold Houston .......................... Quincy, Ill.
Judy, John Abram ............................... Bowen, Ill.
   A.B., University of Missouri, 1913.
Kellersberger, Eugene Roland ................... Fort Worth, Tex.
   A.B., University of Texas, 1911.
Kuhns, Jay M..................................... Honolulu, Hawaii
Langsdorf, Herbert Sidney ..................... St. Louis
Muench, Ludwig Orlando ......................... Washington, Mo.
   A.B., University of Missouri, 1913.
Roberts, Edwin Howerton ....................... Marshfield, Mo.
   A.B., University of Missouri, 1912.
Rossen, Julius Albert .......................... St. Louis
Squibb, Harry Watson .......................... Springfield, Mo.
Strode, Joseph Emmerson ....................... Bates City, Mo.
Toomey, Thomas Noxon ........................... St. Louis
   A.B., Catholic University of America, 1912.
Vinyard, Robert ................................. Jackson, Mo.
Walker, James Walter ........................................ Fayetteville, Ark.
  A.B., University of Arkansas, 1904.
Wennerman, Samuel Franklin ................................. Springfield, Mo.
Wilkening, William Theodore ............................... Oak Ridge, Mo.
Williamson, Howard Moore .................................. Mexico, Mo.
  A.B., University of Missouri, 1913.

THIRD YEAR CLASS

Anderson, Lionel Andrius ...................................... Lawrence, Kans.
  A.B., Baker University, 1910.
Boutwell, Lloyd Reuben ........................................ Hamilton, Mo.
  A.B., Park College, 1911; A.B., University of Missouri,
    1913; A.M., 1914.
Bundy, Harry Eugene ........................................... Milwaukee, Wis.
  B.S., University of Wisconsin, 1914.
Dallwig, Leon Eugene ........................................... Milwaukee, Wis.
  B.S., University of Wisconsin, 1914.
Davis, William Dalton ......................................... Berger, Mo.
  A.B., University of Missouri, 1913; A.M., 1914.
Haley, Roy Robert .............................................. Brookfield, Mo.
  A.B., University of Missouri, 1914.
Holcombe, George Molton ....................................... Burnsville, N. C.
  B.S., Wake Forest College, 1914.
Holcombe, Roland Nowlin ...................................... Danville, Va.
  A.B., University of Missouri, 1914.
LaForce, Herman August ........................................ Houston, Kans.
  A.B., University of Missouri, 1914.
Mattice, Eugene ................................................ Lawrence, Kans.
  A.B., University of Kansas, 1914.
McCormack, Noble DuBois ..................................... St. Louis
Peeler, James Owen .............................................. Norborne, Mo.
  A.B., University of Missouri, 1913; A.M., 1914.
Pollock, William Cramer ....................................... Campbell, Mo.
  A.B., University of Missouri, 1914.
Schmidt, Erwin Rudolph ....................................... Arcadia, Wis.
  A.B., University of Wisconsin, 1913.
Stevenson, Paul Huston ....................................... Maplewood, Mo.
  B.S., Hiram College, 1913.
Woolsey, Ray Taliaferro............ Salt Lake City, Utah
A.B., University of Utah, 1914.

SECOND YEAR CLASS

Abrams, Samuel Frank................. St. Louis
Brookes, Henry Spence, Jr............ St. Louis
Brown, Wilbur Kenneth............... Troy, Ill.
A.B., Shurtleff College, 1913.
Elliott, Benjamin Landis............. St. Louis
Kirby, Alexander Crump............... Harrison, Ark.
A.B., University of Arkansas, 1913.
McNalley, Powell Frank.............. St. Louis
Mueller, Robert........................ St. Louis
Myers, George Marshall.............. St. Louis
O'Hora, Bernard Anthony............. Mazomanie, Wis.
B.S., University of Wisconsin, 1914.
Ranson, John Roy...................... Decatur, Tex.
Schumacher, Harry William............ Altamont, Ill.
Shackelford, Horace Harvey.......... St. Louis
A.B., University of Missouri, 1910; A.M., 1913.
Staley, Forest Henry............... Chester, S. D.
A.B., University of Wisconsin, 1914.
Wallace, Frank Barnett.............. Holden, Mo.
Wattenberg, John Edward.............. Berger, Mo.
Wilhelmi, Otto Julius, Jr........... St. Louis

FIRST YEAR CLASS

Andersen, Hans Peter................. Toastrup, Denmark
Armstrong, James Estey.............. Leon, Iowa
B.S., Central University of Iowa, 1912.
Ball, Bertus Clyde.................. Mansfield, Tex.
B.S., Agricultural and Mechanical College of Texas, 1914.
Goff, Arthur Clark.................. Staunton, Ill.
Hagin, John Charles................ St. Louis
Hyatt, Charles Lawrence............. Paragould, Ark.
A.B., University of Arkansas, 1911.
Lueking, Henry Fremont.............. St. Louis
Maxey, Hugh Worthington............. Mt. Vernon, Ill.
McKee, Joseph Wallace. .............. Kansas City, Mo.
Mitchell, William Leland .............. Staunton, Ill.
Pessel, Johannes Friedrich ............. Belleville, Ill.
Swaney, Luther Ambrose ............... Nokomis, Ill.
       B.S., Carthage College, 1913.
Terrill, Edwin Harold ................. Vandalia, Mo.
Withers, Sanford Martin .............. St. Louis

SUMMARY OF STUDENTS IN THE MEDICAL SCHOOL

Graduate Students ..................... 14
Fourth Year Class ..................... 29
Third Year Class ...................... 16
Second Year Class ..................... 16
First Year Class ...................... 14
Special Students ..................... 2

Total ................................ 91

DEGREES CONFERRED

The degree of Doctor of Medicine was conferred upon the following, June 11, 1914:

Abbott, Frederick Book ................. St. Louis
Arnold, Carl Anderson ................. Des Moines, Iowa
       B.S., Drake University, 1912.
Bredeck, Joseph Francis ............... St. Louis
       A.B., Christian Brothers College, 1910.
Denison, Walcott ....................... St. Louis
       A.B., Washington University, 1912.
Gesell, Robert Albert ................. St. Louis
       A.B., University of Wisconsin, 1910.
Gilbert, Allan Arthur ................. St. Louis
Jackson, John Dee ..................... Carthage, Ill.
Kettelkamp, George David .............. Nokomis, Ill.
       A.B., Central Wesleyan College, 1910.
Maxwell, Herbert Spencer .............. Braddyville, Iowa
       A.B., University of Kansas, 1912.
McKittrick, Ora Francis ......................... Meadville, Mo.
Mclarney, John Thomas ......................... Farmington, Mo.
A.B., Carleton College, 1909.

Moody, Ellsworth Eurit .......................... Carterville, Mo.
A.B., University of Missouri, 1912.

Smith, David English ............................ Charleston, Mo
Snider, Samuel Harrison ........................ Campbell, Mo.
A.B., University of Missouri, 1912.

Wyatt, Harrison Lee ............................. Twin Falls, Idaho
B.S., Drake University, 1911.

GRADUATES APPOINTED TO WASHINGTON UNIVERSITY HOSPITAL AND ST. LOUIS CHILDREN'S HOSPITAL.

Medical Service
A. A. Gilbert
J. F. Bredeck

Surgical Service
Walcott Denison*

Obstetrical and Pediatric Services
F. B. Abbott
E. E. Moody
O. F. McKittrick
D. E. Smith

* Resigned.
GENERAL STATEMENT
HISTORY AND ORGANIZATION

The Medical Department of Washington University, known since 1909 as the Washington University Medical School, continues the work of the St. Louis Medical College and the Missouri Medical College, the two oldest medical schools west of the Mississippi River.

The Medical Department of Kemper College of St. Louis was organized in 1840; in 1845 it became the Medical Department of the University of the State of Missouri. By change of its charter in 1855, it was made an independent institution known as the Missouri Medical College. The work of the School was discontinued in 1862, but resumed in 1865 at the end of the Civil War.

The Medical Department of St. Louis University, founded in 1842, was chartered as an independent institution in 1855 under the name of the St. Louis Medical College.

The Medical Department of Washington University was created by the Corporation in 1891, when the St. Louis Medical College became a part of the Washington University. In 1899 the Missouri Medical College was merged with this department.

Graduates of the St. Louis Medical College number 2,125; of the Missouri Medical College, 2,836; and of the Medical Department of Washington University, 675.

In 1910 the Corporation of the University, appreciating the value of the service which a medical school can give to the community, with the cooperation of the Medical Faculty, reorganized the School in all departments and appointed heads of departments and instructors in anatomy, physiology, biological chemistry, pathology, preventive medicine, medicine, surgery, and pediatrics, who devote themselves to teaching and research, and associated with this staff clinical instructors chosen from the medical profession of St. Louis. These changes were made with the aid of funds donated by philanthropic citizens of St. Louis.

An affiliation has been established between the Barnes Hospital and the St. Louis Children’s Hospital and Washington University,
by which the University agrees to provide the medical staffs of
the hospitals, and the hospitals agree to permit the University to
use the hospitals for purposes of teaching and research. These
hospitals have erected buildings on Kingshighway overlooking
Forest Park, which became available for use in the autumn of 1914.
Adjacent to the hospital buildings, large, thoroughly equipped
laboratories have just been completed (see below). The present
college year opens with the department of the Medical School
installed in the laboratories of the new buildings. With this equip-
ment and with the use of other hospitals in the city, the teaching
staff of the University will be able to give laboratory and clinical
instruction, and to conduct and direct research in all branches of
medicine.

BUILDINGS, LABORATORIES, LIBRARIES, AND
CLINICAL FACILITIES

The Medical School occupies three buildings, in which the
greater part of the work of the school is conducted. It has exclu-
sive use of the teaching privileges of three hospitals, readily acces-
sible from the Medical School, and has clinical privileges in the
various City Institutions.

THE NEW MEDICAL SCHOOL BUILDINGS

The three large buildings of the Medical School are connected
by corridors and tunnel with the Barnes Hospital and the St.
Louis Children’s Hospital.

BUILDING FOR DISPENSARY AND LABORATORIES OF THE HOSPITALS

The Dispensary, the Clinical Laboratory, and the Pathological
Laboratory occupy a large building 232 by 60 feet, situated at the
northeast corner of the hospital lot. This building consists of a
basement and four floors.

Dispensary. The Dispensary occupies the entire first floor and
basement (see p. 57).

Clinical Laboratory. The second floor of the building is oc-
cupied by the Clinical Laboratory, which is divided into patho-
logical, bacteriological, physiological, and chemical sections. Oc-
cupying the eastern end of the floor is a large laboratory equipped
for instruction in clinical microscopy and chemistry. There are
smaller laboratories for physicians and students engaged in
research.
**Pathological Laboratory.** The pathological laboratory of the hospitals and medical school consists of a mortuary and an autopsy room occupying an extension of the west end of the building and of two floors devoted to teaching and investigation in pathology. The extension containing the autopsy room and mortuary is connected with the hospital by a corridor. It contains a chapel in which burial services may be held. The autopsy room is provided with an amphitheatre and in immediate contact with it is a large room which will be used for the teaching of gross pathology.

On the third floor of the building is a class laboratory for bacteriology and pathology. This laboratory consists of three rooms occupying the north side of the building, each equipped to seat class sections of twenty students. On the two floors are rooms equipped for investigation in pathological anatomy, and in chemical and physiological pathology. There are rooms for technical work in histology, for the preparation of media, store rooms and a tool room. A lecture room seating approximately one hundred students and provided with projection apparatus is situated upon the fourth floor in contact with the museum. On the roof of the building are quarters for animals and rooms suitably equipped for experimental pathology.

**Museum of Pathology.** The Museum occupies a large space at the eastern end of the building and is provided with a gallery situated below the skylight. Here is housed the museum of pathology used in the teaching of pathological anatomy, medicine and surgery.

**THE NORTH LABORATORY BUILDING**

The North Laboratory Building on Euclid avenue opposite the Barnes Hospital has four stories, with basement and available attic and roof space. Within it are housed the administrative offices of the Medical School, the assembly hall, the library, and the departments of preventive medicine, experimental surgery and anatomy. The building is connected with the South Building by corridors, and with the hospitals and power house by means of a wide passage beneath the street. The outside dimensions of the North Building are approximately 309 feet from east to west by 56 feet from north to south, giving a floor area of 11,351 square feet for each story.
Assembly Hall and Administrative Offices. On the first floor will be found the library, offices of the school and assembly hall. The latter occupies the east end of the building, and is reached by a corridor leading from the main entrance and passing the Faculty Room and the administrative offices of the Medical School. It seats 350 persons, and may be used for public lectures.

Library. The general medical library occupies the west half of the first floor, a location conveniently accessible to all departments of the School. The space is divided into a stack room, accommodating about 40,000 volumes, a general reading room, three specially equipped study rooms, an exhibition room and the librarian's office. A well-lighted basement furnishes ample space for store rooms and for cataloguers' work rooms.

Experimental Surgery. On the second floor the space is equally divided between the departments of preventive medicine and surgery, the latter having here its laboratories for experimental study, which include two operating rooms with adjoining preparation and sterilizing rooms. Students will be received for class work in the large laboratory of experimental surgery, and advanced workers are provided for in small laboratory rooms.

Preventive Medicine. The western half of the second floor has been arranged in adaptation to the wants of the department of preventive medicine. A bacteriological laboratory, class room and museum are designed for teaching purposes; there are two research laboratories, rooms for maintaining constant temperature and for cold storage, balance room and quarters for animals.

Anatomy. The department of anatomy occupies the whole of the third and fourth floors. On the third floor are three class laboratories arranged on the north side of the building for the teaching of histology and embryology. Each will accommodate from twenty to twenty-four students. Rooms for instructors adjoin the class laboratories. At the western end of this floor are the anatomical lecture room and small public museum, the aquarium and a laboratory for the teaching of microscopical technique. A research laboratory equipped specially for microscopical methods, a photographic laboratory, physical-chemical laboratory and technician's suite occupy the eastern half of the third floor. The arrangement of the fourth is adapted to the needs of gross an-
THE NEW BUILDINGS OF THE WASHINGTON UNIVERSITY MEDICAL SCHOOL,
THE BARNES HOSPITAL AND THE ST. LOUIS CHILDREN'S HOSPITAL.
atomy. The western half is given over to the dissecting laboratory, wash room and locker rooms. The dissecting laboratory is a large chamber subdivided into four broad alcoves by the interposition of museum cases. Each alcove, lighted by high windows at one side, will accommodate from eighteen to twenty students. The eastern half of this floor is occupied by laboratories for instructors, a research laboratory equipped for the methods of gross anatomy, a seminar room, a technician's suite, and draughting room. In the basement are embalming rooms and store rooms. The ample roof space has been utilized for several purposes: an operating suite, a shop and store room, isolated rooms for the preparation of bones, a crematory and quarters for animals under observation.

Equipment of Building. Unit systems prevail not only in the general construction of the building, but so far as advantageous in the fixtures and furnishings. Provision is made in all lecture rooms for the different methods of optical projection and for demonstrations involving the use of gas, water, electricity, and compressed air. Research laboratories and technicians' rooms are furnished with forced draft hoods, electricity, steam, and apparatus for controlling the temperature.

THE SOUTH LABORATORY BUILDING

The South Laboratory Building is of the same size and exterior design as the North Laboratory Building, with which it is connected by a corridor. Opening upon the corridor are the telephone exchange, a lunch and recreation room, the book store, and rooms for janitor service. The building is 56 feet wide, 209 feet long and four stories in height, giving a gross floor area of about 45,000 square feet. It accommodates the Departments of Physiology, Pharmacology, and Biological Chemistry.

Biological Chemistry. Almost the whole of the first floor is devoted to instruction in Biological Chemistry. The west end of the building contains a large class laboratory with chemical tables, hoods, sinks and other facilities for sixty students. Opening upon this laboratory or closely adjoining are a balance room, a dark room for work with optical instruments, a warm room, a refrigerator room, rooms for storage and for the preparation of material used by the class, and a room for centrifuges, presses, and other
bulky apparatus. In the rear half of the first floor are the chemical lecture room with small adjoining rooms for the preparation of lecture demonstrations, a laboratory for students taking special courses, an instructor's laboratory and rooms arranged for certain chemical work in connection with the nutrition of hospital patients. The rear of the second floor is planned chiefly for research, and contains a laboratory for advanced students, preparation rooms, two animal rooms, a seminar room, a store room, and the laboratories of the members of the staff.

**Physiology and Pharmacology.** The Department of Pharmacology occupies the west half of the second floor and a part of the third floor. On the second floor are placed a large laboratory, lecture and preparation rooms, the laboratory of the head of the department and a small room for chemical work.

The third floor will be used jointly by the Departments of Physiology and Pharmacology and is devoted almost entirely to class instruction. It is divided into two class laboratories, each accommodating thirty students, a store room, a number of individual experiment rooms, rooms for special experiments requiring isolation and the use of permanently mounted apparatus, and a laboratory equipped for physiological optics. The students are provided with a tool room for their own work. In addition, the floor contains a suite of rooms arranged for aseptic operations.

The whole of the fourth floor is devoted to Physiology. A seminar room and the lecture room with its preparation room are located here in close proximity to the store of apparatus and chemicals that are used conjointly for demonstrations and research. On this floor is located the shop of the Medical School which is under the supervision of the Department of Physiology. The remainder of the fourth floor is devoted to private laboratories for the staff and advanced workers, and contains rooms designed for special investigation.

The Department of Physiology uses space in the basement for a pier room where apparatus requiring special stability may be mounted; a research room and an aquarium adjoin this room.

**Equipment of Building.** The attic space extending over the whole of the building is utilized for the assembling of the air ducts from the chemical hoods and for the electric fans operating the
draught. A steam still and tin lined tanks for distilled water are located here, block tin pipes running from the tanks to the basement with openings on each floor. The laboratory desks and tables are of special design, and the space allowed to each student is ample. Besides the usual gas and plumbing equipment of such buildings, the various laboratories will be supplied with compressed air, electric power, electric water baths, electric current of different voltages and brine for the refrigerator rooms.

POWER PLANT

The power plant is located east of Euclid avenue and north of the North Laboratory Building. It furnishes light, heat, power, refrigeration, and compressed air to the buildings of the Medical School, including the Dispensary, the Barnes Hospital and the St. Louis Children's Hospital.

LIBRARIES, MUSEUMS, AND COLLECTIONS

LIBRARIES

The Medical Library of the School occupies the west half of the first floor of the North Laboratory Building, a location conveniently accessible to all departments of the School. The stack room on the south side can accommodate about 40,000 volumes; it is accessible from a general reading room which contains the current periodicals and most of the important works of reference, and the card catalogue. There are three study rooms. The basement is fitted up as a storage and work room for the cataloguers.

The Library is in charge of a Librarian with two assistants and is open daily from 8:30 a. m. to 9:30 p. m.

The Library contains (October 1, 1914) 18,006 bound volumes and receives 335 of the most important medical periodicals, selected with reference to the needs of students and investigators. Of these 250 are in complete series.

The Library has been fortunate in securing, by the generous gift of Mrs. Benjamin Brown Graham, the private library of the late Julius Pagel, Professor of the History of Medicine at the University of Berlin. The collection comprises between 2,000 and 2,500 volumes, including many works on the history of medicine,
medical biography, terminology, medical sociology, and ethics. It has also received through friends of the late Dr. John Green and of the late Dr. W. E. Fischel, their fine collections of periodicals and books relating to Ophthalmology and Internal Medicine.

Other libraries in St. Louis which contain literature relating to medicine, and are available to students, either directly or through the Library of the School, are the following:

The Library of Washington University, Skinker Road;
The St. Louis Medical Library, 3525 Pine Street;
The St. Louis Public Library, Olive and Fourteenth streets;
The Library of the Missouri Botanical Garden, Shenandoah and Tower Grove avenues;
The Library of the St. Louis Academy of Science, 3817 Olive street;
The Mercantile Library, Broadway and Locust street.

MUSEUMS AND COLLECTIONS

In the Department of Anatomy is a museum for teaching and a collection of material used in investigation. The museum is combined with the class laboratories in order that specimens may be studied during class periods, as well as at other times. The present small group of anatomical preparations is the beginning of a museum planned to develop in a definite way. It comprises type specimens of adult organs and organic systems, specimens presenting variations and preparations illustrating development. The collection contains an extensive series of osteological preparations, including a group of Indian crania and other material for anthropological study, vertebrate types, and microscopical sections, embryos and models. The embryological preparations include examples of cleavage of the mammalian egg and some of the critical stages in vertebrate development. Each class of vertebrates is represented by specimens.

A Museum of Pathology contains suitably prepared specimens used in the teaching of Pathological Anatomy. Diseases of the bones are well illustrated by a large number of specimens collected by Dr. Charles A. Pope.
The Medical Bulletin contains the transactions of the Washington University Medical Society and articles embodying investigations conducted in the various departments of the Medical School. Its distribution is limited, at present, to the libraries of medical schools and certain other scientific institutions.

WASHINGTON UNIVERSITY MEDICAL SOCIETY

The Washington University Medical Society has been established to promote the advance of medicine in the University and in the hospitals affiliated with it by discussion of investigations undertaken in the laboratories and hospitals. Meetings are held on the second Monday of each month during the academic year. The meetings are open to students of the school.

CLINICAL FACILITIES

By the affiliation of the Barnes Hospital and the St. Louis Children's Hospital with the Washington University Medical School, these institutions become for teaching purposes integral parts of the Medical School.

The attending staffs of each hospital consist of the heads of the University Departments of Medicine, Surgery, Obstetrics, and Pediatrics, with their assistants.

These hospitals offer opportunities for study and observation in every important medical department and specialty, and are closely connected with the complete Out-Patient Department of the University. This assures to the student unusual advantages in clinical work.

Free and pay patients may be admitted to either hospital, but every effort is made to prevent the pauperization of the individual, and patients who are able to pay are expected to meet the nominal rates in force.

In both hospitals there is complete laboratory equipment for the investigations necessary in diagnosis. In addition to the ward laboratories, there are special laboratories in the Department of Medicine. These special laboratories are in charge of the Associate Professor of Medicine, assisted by the Resident Pathologist,
to whom are assigned some of the more refined diagnostic procedures. In these special laboratories there are facilities for research workers.

THE BARNES HOSPITAL

The Barnes Hospital, under the auspices of the Methodist Episcopal Church, South, is affiliated with the Washington University Medical School. The buildings are situated upon a lot which runs from Kingshighway on the west to Euclid avenue on the east, facing Forest Park upon the south and west. The group of hospital buildings proper consists of an administration building, from which extend corridors leading to the medical and surgical wards, and to a private pavilion, service buildings, and a laundry. These buildings are of fire-proof construction with exterior walls of impervious light gray brick, trimmed with limestone, floors of marble tile or battleship linoleum, and interior walls of tile, enameled brick, glass, or marble.

The main entrance of the administration building opens upon a spacious rotunda containing a bronze bust of the donor, Robert A. Barnes. On the one side of this rotunda is situated the general information office, and on the other are the administrative office, the trustees' room, offices of the superintendent, and rooms for the attending physicians. The resident medical staff is housed in the second and third stories of this building. The lecture room for the medical department is located in the two upper stories and is sufficiently large to accommodate the student body as well as visitors.

To the north of this main administration building are the service buildings containing kitchens, dining-room, bakery, and laundry, and rooms for the hospital employees. On the top floor of the main building is the operating pavilion. The arrangement of this space is such that the incoming patients may be conducted to the etherizing rooms by way of a separate corridor and are not brought into contact with the routine work of the department. There are three small and one large operating room. The larger room has a small amphitheatre and is equipped with a projection apparatus for the demonstration of specimens, microscopic sections and lantern slides. Besides necessary dressing rooms, the attending staff has an
examining suite for private cases consisting of three rooms with a secretary's room. The large work-room for the nurses has a western and southern exposure, thus insuring the best of working conditions. A central sterilizing plant just off the work-room contains sterilizing accommodations for the entire hospital. There are recovery rooms and special examining rooms so located that they are easily accessible to the nursing force. Between the operating rooms are surgical wash rooms with full equipment for instrument sterilizing, with blanket warmers, etc. The entire operating pavilion is supplied with sterilized water from the special tank located in this pavilion. On the first floor of the pavilion are a well-equipped receiving ward and emergency department which will provide for continuous service.

The building at the west of the hospital lot facing Forest Park both on the south and west is the private pavilion. Its separate entrance on Kingshighway gives to a service with all the advantages of a general hospital the convenience of a private hospital. The arrangement of the rooms is such that patients may have single private rooms or rooms en suite with bath. Arrangements for separate service allow of such variation as may be desired.

The wings containing the wards of the hospital are situated on either side of the administration building. They are three stories high and have the shape of the letter "T." With their southern exposure these open wards are insured sunlight. The service is centered at the north end and so arranged as to reduce to a minimum the effort of the necessary routine. On either side of the ward, at the junction of the corridors and facing south, are porches, one for convalescent and the other for the bed patients. By this arrangement all patients may be placed out of doors.

With the space in the private pavilion the initial capacity of the Barnes Hospital is approximately 220 beds. A sufficient space is reserved to increase this number materially.

The hospital contains numerous class rooms, laboratories, lecture rooms, and examining rooms in addition to the accommodations usually found in general hospitals. Special provision has also been made for a modern equipment in the department of radiography, hydrotherapeutics, and mechanotherapy, special wards and equipment are provided for studying metabolism, and there are special laboratories for microscopical and chemical diagnosis.
All of the buildings which have been described are connected by at least two corridors, one in the basement and one above ground. Service elevators are so distributed that all service, traffic and trucking are confined to the basement corridor. Corridors connect the hospital with the buildings of the Medical School and with the St. Louis Children's Hospital.

THE ST. LOUIS CHILDREN'S HOSPITAL

The St. Louis Children's Hospital, which is placed on the same tract as the Barnes Hospital, immediately northwest of it and facing Forest Park on the west, offers facilities for bedside study and instruction in the diseases of infancy and childhood, including the infectious diseases. It is built of grey brick and harmonizes in color and design with the adjacent buildings. The hospital has general medical wards, auditorium and contagious wards with the accessory equipment of each.

The building devoted to general hospital work is approximately 88 by 88 feet. It is five stories high, with offices for the admission of patients and for other administrative purposes on the ground floors, wards for general medicine on the second floor, wards for infants on the third floor, and wards for general orthopedic surgery on the fourth floor, research laboratories, director's suite, and rooms for the residents and interns on the fifth floor. In connection with the third floor there is a large open-air ward on the roof of the auditorium building. In this part of the hospital there are 120 beds.

The building for contagious diseases, 88 by 45 feet, has a basement and three floors, and contains 40 beds. One of the three floors is for patients with diphtheria, one for patients with scarlet fever, and the other for patients with measles. Each of these floors is entirely separate from the others, the elevators and stairs being on the outside of the building. Accommodations have been made for mothers of sick children and a few private rooms for adults with infectious diseases have been provided in this building.

Between the general hospital and the contagious building there is an auditorium two stories high, connected with the other two buildings. The out-patient department of the hospital is located in the general out-clinic department of the Medical School.
A valuable adjunct to the St. Louis Children’s Hospital is its Country Department, located on the Missouri Pacific Railway, one and one half miles from Valley Park. The hospital building of this department is of brick and concrete construction and fireproof. It consists of two open wards, each to accommodate 25 children, overlooking the Meramec River to the south. The wings extending to the north provide for service and for nurses and staff quarters.

HOSPITAL FOR COLORED PATIENTS

Plans have been completed and specifications drawn for the erection of a new pavilion for colored patients, this building to be located on the hospital block between the Children’s Hospital and the Service Building. Pending the completion of these quarters colored patients are being provided for in two houses situated upon the same lot with the main buildings and overlooking Forest Park. They have been renovated and such changes made as were necessary to provide for the medical, surgical, obstetrical, and pediatric services. The two buildings have a capacity of 25 beds.

WASHINGTON UNIVERSITY DISPENSARY

OUT-PATIENT DEPARTMENT OF THE BARNES AND ST. LOUIS CHILDREN’S HOSPITALS

The Dispensary occupies the entire first floor and basement of the large building, 232 by 600 feet, situated at the northeast corner of the hospital lot. The clinical laboratory and the pathological laboratory occupy the upper floors of this building. On the first floor are the clinics of Medicine, Surgery, Pediatrics, and Obstetrics, and on the basement level, which is perfectly lighted by large areaways, are the clinics of Ophthalmology, Laryngology, Rhinology, Otology, Neurology, Dermatology, Genito-Urinary Diseases, and Orthopedic Surgery.

Patients enter from a single entrance on Euclid avenue and are assigned to the various clinics by the admitting officer at the registration desk. On each floor there is ample waiting-room space. The clinics, which in previous years have been held at the outpatient department of the Washington University Hospital, at the O’Fallon Dispensary, and at the Saint Louis Children’s Hos-
pital, are now conducted in this single dispensary, which is an organic part of the Medical School, and is entirely controlled by the corporation of the University through a committee of the Medical Faculty. There were treated in these dispensaries from June 30, 1913, to July 1, 1914, 79,131 patients. As in the Hospitals, the University Departments of Medicine, Surgery, Obstetrics and Pediatrics are responsible for the care of patients. All clinical facilities are available for teaching purposes, and members of the third-year class in small sections work in these clinics under the supervision of the out-patient staff. Laboratories and operating rooms are connected with the various clinics, and through the large and varied general service, unusual facilities for instruction are afforded. The work of all services is facilitated by the cooperation of the Department of Nursing and Social Service of Washington University.

SERVICE OF THE WASHINGTON UNIVERSITY MEDICAL SCHOOL IN THE CITY HOSPITALS

On November 1, 1914, Washington University, at the invitation of the authorities of the City Hospital, assumed control and became responsible for the medical care of one third of the patients in the City and Infectious Hospitals, and agreed further to render such professional service in the other municipal institutions as the Hospital Commissioner might request.

The physical equipment of the City Hospital is such that this service can be used to advantage for both undergraduate and graduate teaching, and the addition of this unit to the clinical facilities of the University broadens in a remarkable way the opportunities for teaching. By this cooperation, it is possible for the University to render a distinct service to the community and to the sick poor. The number of beds made available by this arrangement is approximately 375.

The general plan of organization of the Washington University unit is the same as that in operation at the Barnes Hospital, which is that each department is organized with a chief of clinic who is held responsible for the work of that subdivision, and for the proper assignment of work to the assistants.
ST. LOUIS MULLANPHY HOSPITAL

This Hospital, with which the University has an agreement, was founded in 1828 and is under the charge of the Sisters of Charity. In the hospital proper approximately one hundred patients are admitted each month for treatment, and in the out-patient department about twenty-five hundred new cases are treated annually.

BETHESDA HOSPITAL

The Bethesda Hospital is within a ride of twenty minutes from the Medical School. This institution cares for infants and young children in one of its departments and has a large amount of clinical material that may be used for teaching and special study.

DEPARTMENT OF NURSING AND SOCIAL SERVICE

Training School for Nurses. The Washington University Training School for Nurses offers unusual advantages in that instruction is given in the laboratories of the Medical School, in Anatomy, Chemistry, Physiology, and Bacteriology, and the practical training includes work in the Obstetrical Service and the St. Louis Children's Hospital, as well as in the general medical and surgical wards, operating rooms, and dispensaries. An opportunity is given for special experience in the operating room and laboratories and for home visiting under the direction of the Social Service Department. Included in the curriculum is a required course in English, which is given by the Department of English of the University.

Pupils and graduates are comfortably housed. The course of training is three years, including the six months' period of probation. Credit is given for the special preparatory courses offered by Columbia University, Simmons College, the University of Missouri, etc. Two scholarships are available for members of the Senior Class who may wish to take graduate work.

Social Service. The Social Service work is conducted in the Washington University Dispensary, and the Barnes and the St. Louis Children's Hospitals. The Head of the Department of Nursing and Social Service directs the general policy and there is a staff of seven paid assistants, each of whom has a special phase of the detailed work under her care.
Pupil nurses have a definite period of training in the department and medical students who volunteer receive experience in follow-up work and methods of relief which is of great value to them in their future careers. A large amount of material for research along medical social lines is available through the department and interesting problems are constantly being studied not only by members of the staff but by the doctors connected with the various departments of the hospitals and dispensaries.

HOSPITAL APPOINTMENTS

In the second trimester of the year, internes for the Barnes Hospital and for the St. Louis Children's Hospital are selected by the Medical School.

The services begin July 1 and September 1, and are for one year. For 1914-15 these services are as follows:

Barnes Hospital.
   Medical Service, three positions;
   Surgical Service, four positions;
   Obstetrical Service, four positions.
St. Louis Children's Hospital, three positions.

The medical and surgical services are for the full period of one year.

The obstetrical service and the service in the St. Louis Children's Hospital may be combined and give the internes a service of six months in each department.

Besides these positions which are in services controlled by the University, internes are nominated by the Medical School for positions in the following hospitals:
   St. Louis Mullanphy Hospital, two positions;
   St. Luke's Hospital, one position;
   St. Anthony's Hospital, one position.

Appointments to these positions are usually made from members of the fourth year class of the Medical School. While preference is shown members of the School or its graduates, graduates or members of the fourth year class of other schools may apply for appointment, and in cases of unusual qualifications such men may be nominated for positions. Selection is made from those apply-
ing for positions on the basis of class standing in required work, upon evidence of special fitness as shown by work in elective courses, upon personal considerations, and, when desired by the Faculty, upon examination.

About seventy other appointments are made each year to Internships in the various hospitals of St. Louis not connected with the University. The fourth year students and graduates of this School may compete with those of other schools for these positions, which are filled upon the basis of examinations conducted by the respective boards of the hospitals.

REQUIREMENTS FOR ADMISSION

Candidates for entrance will be required to have completed satisfactorily a standard four years' high school course and at least two full years of collegiate work, which must include the following:

1. **English.** A course of at least three hours a week for one year is required.

2. **German.** A reading knowledge of the German language is required. The ground covered in collegiate courses of at least three hours a week for two years represents the training considered necessary to meet this requirement. Candidates for admission deficient in German may enter with a condition in this subject; the condition must be removed before the beginning of the second year of medical work.

3. **Physics.** A course of at least two hours of lectures and three hours of quantitative work in the laboratory per week for one year is required.

4. **Chemistry.** A full collegiate course of at least two hours of lectures and six hours of laboratory work for one year, or the equivalent, is required. Students in Washington University take two years of chemistry, including quantitative and qualitative analysis. Candidates for admission are advised to complete these courses, particularly quantitative analysis, before they enter the Medical School. If they have not completed this work, they will be required to undertake similar courses during the first trimester of the first year in addition to the regular work of the medical curriculum.
5. **Biology.** A course of two hours of lectures and six hours of laboratory work a week for one year, upon the structure, functions, and life history of selected types of animal and plant life is required. Courses in botany and zoölogy will be accepted as fulfilling this requirement, provided the laboratory work has been adequate. The course should include laboratory instruction in elementary embryology.

Applicants for admission are required to submit credentials from the college in which they have studied. A statement from the college should enumerate the completed courses in those subjects which are required for admission to this school. It is desirable that the statement include the number of hours devoted to class and laboratory work in each subject. The degrees which have been received or the number of years of collegiate study successfully completed should be stated. A blank form for recording these data will be furnished upon application.

No candidate will be admitted who has a condition in any required branch except German.

While two years of collegiate work, as in part above specified, fulfills the minimum requirement for entrance to the Medical School, the broader training afforded by additional years of academic work offers better preparation for the study and practice of medicine. Students intending to pursue the study of medicine should, if possible, complete the four-year college course before entering the Medical School.

Students in Washington University preparing to enter the Medical School and who can devote only two years to preparation may follow one of two plans; either their studies may be selected without the intention of obtaining a bachelor's degree or a course may be followed leading to the degree of Bachelor of Science.

Those students who do not wish to become candidates for the B. S. degree may elect their two years of college work in accordance with the following schedule:

**Freshman Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 1</td>
<td>6</td>
</tr>
<tr>
<td>English 1</td>
<td>6</td>
</tr>
<tr>
<td>German 1</td>
<td>6</td>
</tr>
<tr>
<td>Zoölogy 1</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>6</td>
</tr>
</tbody>
</table>

**Sophomore Year**

<table>
<thead>
<tr>
<th>Course</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemistry 12</td>
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</tr>
<tr>
<td>German 3</td>
<td>6</td>
</tr>
<tr>
<td>Physics 1</td>
<td>6</td>
</tr>
<tr>
<td>Electives</td>
<td>15</td>
</tr>
</tbody>
</table>


Options. German may be omitted by students possessing a reading knowledge of the language, that is, the equivalent of German 1 and 3. Electives may be selected from the list above, although the Dean of the College will, for sufficient reason, grant permission to take other courses not there listed, if the student is qualified.

**Bachelor of Science**

The degree of Bachelor of Science is conferred in the College on those students who have satisfactorily completed the two years of work described below, and have in addition passed all the required courses in the first and second years in the Medical School with the average grade of C (70-85).

*Pre-Medical Curriculum Leading to the Degree of B. S.*

**Freshman Year**

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Course Name</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>General Descriptive Chemistry</td>
<td>Chemistry 1</td>
<td>6</td>
</tr>
<tr>
<td>Composition and Rhetoric</td>
<td>English 1</td>
<td>6</td>
</tr>
<tr>
<td>Elementary German</td>
<td>German 2</td>
<td>10</td>
</tr>
<tr>
<td>or</td>
<td>German 3</td>
<td>6</td>
</tr>
<tr>
<td>and an</td>
<td>Elective (see below)</td>
<td>6</td>
</tr>
<tr>
<td>General Physics</td>
<td>Physics 1</td>
<td>6</td>
</tr>
<tr>
<td>General Biology</td>
<td>Zoology 1</td>
<td>6</td>
</tr>
</tbody>
</table>

**Sophomore Year**

<table>
<thead>
<tr>
<th>Course Type</th>
<th>Course Name</th>
<th>Units</th>
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</thead>
<tbody>
<tr>
<td>Qualitative and Quantitative Analysis</td>
<td>Chemistry 12</td>
<td>3</td>
</tr>
<tr>
<td>Organic Chemistry</td>
<td>Chemistry 21</td>
<td>6</td>
</tr>
<tr>
<td>General Introduction to</td>
<td></td>
<td></td>
</tr>
<tr>
<td>English Literature</td>
<td>English 11</td>
<td>6</td>
</tr>
<tr>
<td>Third-Year German</td>
<td>German 11</td>
<td>6</td>
</tr>
<tr>
<td>Embryology</td>
<td>Zoology 4</td>
<td>3</td>
</tr>
<tr>
<td>Electives (see below)</td>
<td></td>
<td>12</td>
</tr>
</tbody>
</table>
Electives Open to Pre-Medical Students

Botany 1, 3, and 9
Chemistry 11, 14, 17, and 22
Economics 2
French 1 and 3
Geology 1 and 16
Greek 1
History 1, 2, and 4
Latin 1 and 2
Mathematics 12 and 13
Philosophy 1 and 3
Physiology 1
Political Science 1
Sociology 1
Zoology 2, 3, and 9
Drawing 4

The following options and restrictions are effective:

(a) Students possessing a knowledge of German equivalent to that prescribed above may be excused from that part of the course and must elect a corresponding amount of other subjects.

(b) Students electing Chemistry 11 and 14 are not required to take Chemistry 12.

(c) Candidates for the B.S. degree are required to take additional work in the Medical School equivalent to those required courses of the medical curriculum (organic chemistry and embryology) for which they bring credit.

ADMISSION TO ADVANCED STANDING

Applicants for admission to advanced standing (1) must furnish evidence that the foregoing terms of admission in regard to preliminary training have been fulfilled, (2) must show that courses equivalent in kind and amount to those given in this school, in the year or years preceding that to which admission is desired, have been satisfactorily completed, and (3) must pass satisfactory examinations in those subjects in the work for which they have asked credit. These examinations may be waived at the discretion of the instructor in charge of the corresponding course. Students from schools the entrance requirements of which are not equivalent to those of this school must take examinations in all subjects for which they ask credit. The applicant must have studied as a matriculated medical student in an approved medical school for a period of time at least equal to that already spent by the class which he seeks to enter.
(a) Students who have received from an approved medical school* credit for courses equivalent to those of the first year of this school in anatomy, chemistry, and physiology, will be admitted to the second year class without examination but, at the discretion of instructors, may be examined in these subjects at the end of the second year.  

(b) Students who have received from an approved medical school credits in anatomy, chemistry, physiology, pharmacology, bacteriology and pathology will be permitted (see 3 above) to enter the third year class, but no student may enter with a condition in any of these subjects.  

(c) Students who have received credit for courses in anatomy, chemistry, physiology, pharmacology, bacteriology, and pathology, equivalent to those given in this school, may (see 3 above) enter the fourth year class without examination in subjects of the third year, provided they have received credit for courses in medicine, surgery, and obstetrics, equivalent to those of the third year, but, at the discretion of the instructors, may be examined in these three subjects at the end of the fourth year.

Graduates of other medical schools, who are permitted to enter this school with advanced standing as candidates for the degree, are required (a) to pay the fees charged for the years in which they are in attendance, and (b) to fulfill the requirements for graduation, as stated in this announcement.

Applicants for advanced standing are required to furnish, in addition to the credentials required for admission, credentials from the medical school in which they have studied, enumerating the completed medical courses for which credit is asked and stating, the number of completed years of medical work. A blank form of application for advanced standing will be furnished upon request.

**STANDING AND PROMOTION**

To enter any course the student must have taken the required courses in the subjects which supply the preliminary preparation for that course. The subjects preliminary to each course are defined in the description of these courses.

*An approved medical school has entrance requirements equivalent to those of this school.*
Examinations are held at the completion of each course and at other times as determined by the instructors. A student who is conditioned must take a special examination at the time appointed for such examinations. (See Calendar.)

Students who at the end of the first or second year have recorded against them failures in any two of the following subjects, anatomy, histology with neurology, physiology, biological chemistry, pharmacology, pathology, or bacteriology will be advised to withdraw from the school.

No student will be permitted to undertake the work of the third year who has an unabsolved failure in any one of the subjects named above.

A student who at the end of the third year has failed in any two of the following subjects, medicine, physical diagnosis, clinical chemistry and microscopy, surgery, surgical pathology, or obstetrics, will be advised to withdraw from the school.

No student will be permitted to undertake the work of the fourth year who has unabsolved failures in physical diagnosis, clinical pathology or surgical pathology.

The minimum time in which the courses required for the degree of Doctor of Medicine can be taken is four years.

Graduates of Washington University Medical School are exempt from the first and second examinations of the Conjoint Board of the Royal College of Physicians of London and the Royal College of Surgeons of England.

The degree of Bachelor of Science will be awarded at the close of the second year's work in the Medical School to such students as previous to entering the Medical School have completed, in the Department of Arts and Sciences of Washington University, the pre-medical course prescribed for entrance to the Medical School.

**REQUIREMENTS FOR GRADUATION**

The candidate must be more than twenty-one years of age and of good moral character. He must have attended not less than four annual courses of medical instruction as a matriculated medical student, the last of which has been in this school. He must have taken all obligatory courses offered here, or their equivalent,
and have received a satisfactory grade in the work of the entire four years. He must have discharged all indebtedness to the school.

He must by the first of May have notified the Dean, in writing, of his intention to present himself as a candidate for the degree.

At the end of the fourth year every student who has fulfilled these requirements will be recommended for the degree of Doctor of Medicine.

PRIZES

Two George F. Gill Prizes are offered to the students of the School, viz.:

1. One prize of fifty dollars to be awarded at the end of the first year to the member of the class who shall have made the highest grade in anatomical work.

2. One prize of fifty dollars to be awarded to a member of the graduating class, of high general standing, who shall have done especially good work in the department of Pediatrics.

Alumni Association Prize. For the purpose of encouraging an interest in scientific work on the part of the young men who have just been graduated, the Alumni Association of the Medical School has decided to give each year, at the graduating exercises, a prize of fifty dollars to the graduate of the year before, who presents the best thesis on a medical or surgical subject.

In 1916 the prize will be given on the following conditions:

1. While it is not desired to restrict the choice of the subject, the award will be given only to such papers as show evidence of original work. Ordinarily, reports of interesting or unusual cases, unless they be included as part evidence in the consideration of some more general topic, will not meet the approval of the committee. Likewise, literary summaries, unless they bring out some new and important facts, are not desired. Besides the fields of medicine, surgery, and specialties, original work may be done in anatomy, histology, physiology, biological chemistry, pathology, hygiene, and bacteriology.

2. The candidate's thesis must be signed with a nom de plume and placed in a sealed envelope. This, together with a sealed letter
containing the *nom de plume*, name, and address of the candidate, must be sent to the Registrar of the Medical School not later than April 1, 1916.

The committee reserves the right to publish any of the theses submitted in the contest, in the Bulletin of Washington University. This will not preclude simultaneous publication elsewhere.

3. All inquiries concerning this contest should be directed to the Registrar of the Medical School.

**WINNERS OF PRIZES AND HONORS, 1913-14**

*Gill Prize in Anatomy*
Powell Frank McNalley

*Gill Prize in Diseases of Children*
Ellsworth Eurit Moody

**SCHOLARSHIP**

The *George F. Gill Scholarship*, instituted in memory of the late Dr. George F. Gill, Clinical Professor of Pediatrics, entitles the holder to remission of the tuition fee to the amount of the Scholarship, namely $100.00.

**FEES AND EXPENSES**

**TUITION FEES.** Before registration each student will be required to pay a matriculation fee of $5.00, which is payable but once during the course of four years.

A charge of $3.00 will be made against each student who fails to register before October 6, 1915.

The tuition fee is $150.00, payable in two equal installments, at the beginning of the first trimester and on February 1.

There are no laboratory fees.

All fees and charges are payable in advance at the office of the Treasurer in University Hall. If not paid within thirty days after the time they become due, the student, by order of the Corporation, will be suspended from all privileges of the University until the fee is paid. No rebate of the tuition fee can be made for absence, whether such absence occurs at the beginning, middle, or end of the trimester, except in cases of prolonged illness certified to by a
physician. Checks should be made payable to Washington University.

**Diploma Fee.** At the completion of the course a diploma fee of $5.00 will be charged.

**Rental of Microscopes.** Each student in the fourth year who does not own and use his own microscope will be charged a fee of $5.00 for the use of a microscope, which will be rented him by the University, and for which he will be responsible. He must also provide his own hemocytometer.

**Breakage Deposit.** Each student is required to pay to the Treasurer of the University $10.00 to cover breakage. Any balance of this deposit will be returned at the end of each year. No student will be granted the use of the laboratories or apparatus of the School until the required deposit has been paid.

**Fees for Graduate Students.** Graduates will be charged the matriculation fee of $5.00, and a tuition fee in proportion to the amount of work taken during the session. The usual charge for one course is from $25.00 to $50.00. Graduates who may wish to take special courses of study are requested to make written application to the Registrar, stating plainly the nature of the work they wish to do and the length of time they expect to be in attendance.

**Summary of Expenses for the Four Years' Course**

The actual fees charged for each year's attendance at the school are as follows:

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GENERAL PLAN OF INSTRUCTION

Instruction in the Medical School is given to candidates for the degree of Doctor of Medicine and to graduate students who may or may not be candidates for higher degrees. Courses which are open to students in the University, not candidates for the degree of Doctor of Medicine, are assigned a value in units to indicate the credit allowed by the University.

The course of study required of candidates for the degree of Doctor of Medicine extends over a period of at least four academic years, and is designed for students who have already received certain preliminary training. Believing that a broader education is essential to the successful study and practice of medicine, the School has increased its requirements for entrance, and the course of study has been correspondingly rearranged. As stated in detail (pp. 61 and 62) the student on entering the School must have completed two years of college work, which must include a knowledge of chemistry, physics, biology, and of the English and German languages. An entrance condition in German is allowed but must be removed before entering the second year. With this preliminary training, some of the work previously done in the Medical School, such as inorganic chemistry and qualitative analysis, may properly be omitted, and the time thus gained is devoted to a fuller and more thoughtful study of the subjects directly pertaining to medicine.

It is the aim of the School to prepare its students to become practitioners of medicine, the experience gained in the laboratories and hospitals serving as the basis for medical training and knowledge. The order of studies is arranged so that the more fundamental are placed in the beginning of the course.

The Academic year, extending from the last week of September to the first week in June, is divided into trimesters, each of about eleven weeks. The required work keeps the student occupied in laboratory, class-room, hospital, or dispensary about thirty hours each week, and demands outside preparation. As far as possible the work is so arranged as to leave free several half days each week,
during which time those students who can profitably undertake extra work are encouraged to take courses in the subjects of their greatest interest. Suitable optional courses are offered by each department in the School.

The curriculum of four years has been divided into three distinct periods, this division being based on the requirements of the student at a given time in his medical course.

The first period includes the first year and the first and second trimesters of the second year. During this time, the student studies the fundamental sciences of anatomy, biological chemistry, physiology, pharmacology, pathology, and bacteriology. For this first period, the whole interest of the student is concentrated on the fundamental essentials of medical education, and every effort is made to train the faculty of critical and independent observation. Anatomy and chemistry are studied during the first year. In the last trimester of this year, the study of physiology begins, and bacteriology is studied in preparation for work in pathology. For the first trimester of the second year practical anatomy is completed, while during the first two trimesters physiology, pharmacology, and pathology, are studied. In the last trimester of this period, courses are introduced in physical diagnosis including case taking and observation clinics, and in surgical technic, in preparation for the clinical work of the second period.

The second period, extending from the third trimester of the second year through the second trimester of the fourth year, is devoted primarily to clinical work. For the first half of this period, the student serves as student assistant in the out-patient departments of medicine, surgery, or obstetrics, and attends clinics, lectures and recitations. This work in the out-patient departments occupies from 6 to 8 hours per week. Patients are examined by the student and treated under the direction of the attending staff. During the second half of this period, the students are assigned to the wards of the Hospitals, and each section of the class serves a full trimester in the wards of medicine, surgery, or obstetrics and pediatrics. During the second period, courses are given in clinical microscopy, neurological pathology, surgical pathology, and experimental operative surgery. Special emphasis
is placed upon the study and treatment of patients. The patient is used as a means of demonstration in clinics and bedside instruction, and relatively little attempt is made to formulate information in lectures. Clinical work in the specialties is confined to the second half of the second period.

During the third and last period, which occupies the third trimester of the fourth year, there is no prescribed curriculum. The student must gain credit for 300 hours of work, 150 of which must be spent in some one department. It is expected that, during this period, the students will avail themselves of the opportunity to further any special interest they may have in any one of the fundamental sciences, or clinical subjects, and that some few may attempt a certain amount of original work. This period becomes operative with the class graduating in 1916. For the class of 1915 the clinical work will be confined to the third and fourth years. For details as to the assignment of hours, the general schedules and the departmental statements should be consulted.
COURSES OF INSTRUCTION*

Anatomy

Robert J. Terry, M.D. . . . . Professor of Anatomy
Paul Y. Tupper, M.D. . . . . Clinical Professor of Surgery
Victor E. Emmel, Ph.D. . . . . Professor of Anatomy
Charles H. Danforth, Ph.D. . . . Associate in Anatomy
Edwin A. Baumgartner, A.M. . . . Instructor in Anatomy
Forest H. Staley, A.B. . . . . Student Assistant in Anatomy

First Year

1. Anatomy of Vertebrates. Selected types furnish material for dissection and microscopical study. Lectures on the results of comparative anatomical science and on the modern theories relating to organized structure accompany the laboratory course. One lecture or recitation and five hours of laboratory work a week throughout the year. Total 198 hours.

Professor Terry, Dr. Danforth

2. Embryology. An outline of human development in which special attention is given to early ova, implantation and formation of foetal membranes, attainment of body form, and post-natal changes. Microscopic preparations provide material for the study of germ cells in man and other animals; maturation, fertilization, and segmentation in the mouse; and the development of germ layers and organs in the chick and pig. The microscopic work is supplemented by dissections of pig embryos and study of human embryos, by models and demonstrations. The significance of rudimentary structures and of certain congenital malformations is considered. Emphasis is laid upon the bearing of genetic studies. Nine hours a week in the first trimester. Total 108 hours.

Mr. Baumgartner

3. Histology. This course offers a grounding in the knowledge of the histological structure of the human body and includes some instruction in microscopical technique. The subject embraces

* The titles of all optional and elective courses are printed in italics.
microscopical anatomy, histogenesis and functional significance of the component structural elements of the tissues and organs. Students are provided with collections of selected histological preparations. Lectures, demonstrations and recitations are correlated with the laboratory work. Three mornings a week in the first trimester. Total 144 hours.

Dr. Danforth

4. Cytology. Facilities are offered in this course for an intensive study of cells and their relation to current cytological problems. The subject includes the finer structure and functional correlation of the fundamental nuclear and cytoplasmic elements, their role in the reaction of cells to normal and abnormal environment, their differentiation with respect to the specialization of vital activities in the organism, and their significance in such phenomena as cell proliferation, growth, repair, cytomorphosis, development and heredity. The subject matter is intended to serve as an introduction to histological research. Prerequisite, Anatomy 1, 2, 3, and Physiology 1, or the equivalents. Six hours of laboratory work in the third trimester. Total 66 hours.

Professor Emmel

5. Neurology. A laboratory and lecture course on the development, macroscopic, and microscopic anatomy of the central nervous system and sense organs. Collections of sections through the brain stem, special Weigert and Golgi preparations, wax models, embryological and adult material for dissection are provided. The gross dissection is followed by a study of neuro-histology, of fiber tracts, nuclei, the interrelations of the neurone systems and functional significance of special organs. Nine hours a week during the second trimester. Total 90 hours.

Professor Terry, Dr. Danforth

6-7. Human Dissection. The course offers opportunity for the systematic study of the structure of the human body. Each student is provided with material for the preparation and study of the muscles, joints and skeleton; the viscera; the vascular system and peripheral nerves. Lectures and demonstrations on certain aspects of human anatomy serving to systematize the observations
made in the laboratory and to direct attention to human structure in relation to function, pathological change, medical and surgical application, variation and heredity are given from time to time during the year. Nine hours a week throughout the year. Total 297 hours.

Professor Emmel

Second Year

8. Topographical Anatomy. Six hours a week in the first trimester are spent in laboratory study of the position and relations of organs. Sections, museum preparations, and models are used as material for study. Total 72 hours.

Professor Terry

9. Applied Anatomy. The conventional surgical regions are considered and the skeleton, muscles, bloodvessels, nerves, and lymphatics are discussed from the surgeon’s point of view. Lectures and demonstrations two hours during the third trimester. Total 24 hours.

Professor Tupper

10. Advanced Course in Gross Anatomy. Dissection of the human body, study of preparations and sections. Hours to be arranged.

Professor Terry

11. Conferences in Anatomy. One hour a week during the year.

Professor Terry

12. Conferences in Osteology. One hour a week in the second trimester.

Mr. Baumgartner

13. Physical Anthropology. Three hours of laboratory work with assigned reading. The objects of this brief course are to familiarize the student with the methods used in the study of physical anthropology and to awaken interest in research in this branch of anatomy. Total 33 hours. Prerequisite, Anatomy 1, 6-7.

Professor Terry
14. *Anatomy of the Living Body.* In this course of lectures with demonstrations it is intended to treat collectively of those anatomical features which can be observed by inspection and palpation of the living body. First trimester. Prerequisite, Anatomy 1, 6-7.

**Professor Terry**

15. *Anatomical Technology.* Opportunity is afforded for gaining experience in the ordinary methods of preparing material for study. Among the methods undertaken are: preservation of gross material, color injection, preparation of bones, the technique of fixing, embedding, cutting, and staining microscopical objects. Six hours of laboratory work in the third trimester. Total 66 hours.

**Mr. Baumgartner**

16. *Investigation.* The department offers facilities for investigation in several branches of anatomical science and those qualified are encouraged to undertake research. Hours to be arranged.

17. *Anatomy Seminar.* For members of the staff and investigators. Bi-monthly throughout the year.

**Biological Chemistry**

Philip A. Shaffer, Ph.D. . . Professor of Biological Chemistry  
J. Lucien Morris, Ph.D. . . Associate in Biological Chemistry  
Roger S. Hubbard, A.M. . . Assistant in Biological Chemistry  
H. Harvey Shackelford, A.M. Student Assistant in Biological Chemistry

1. *Quantitative Analysis.* A laboratory course designed to acquaint the student with those principles of gravimetric and especially volumetric analysis, which form the basis for quantitative chemical work in the medical sciences. Principles and quantitative technique are emphasized rather than the study of applied analytical methods which are considered in Course 3. The course is required of those students who enter without credit in volumetric analysis and is optional to others. First trimester, five hours a week. Total 60 hours.

**Dr. Morris**
2. **Organic Chemistry.** A short course of lectures and recitations intended to acquaint the student with the elements of the chemistry of carbon compounds, preparatory to Course 3. First trimester, three hours a week. Total 36 hours.

Mr. Hubbard

3. **Biological Chemistry.** A systematic course of lectures, recitations, conferences, and laboratory work covering those portions of the subject which are of the greatest importance to the student of medicine. The laboratory work includes detailed study of the chemistry of fats, carbohydrates and proteins; the synthetic preparation of a few organic substances; the analysis of the more important animal tissues and fluids; a study of the action of enzymes; the conduct of metabolism experiments by the student upon himself as illustrating some of the principles of nutrition; a study of the composition of important foods; and extended practice in chemical technique. During the latter part of the course, after reading the published records of original investigations, each student prepares a thesis upon a selected topic. So far as time permits the theses are presented to the class for discussion. Prerequisite: courses in chemistry required for entrance; Course 1 (Quantitative Analysis) and Course 2 (Organic Chemistry), or their equivalent. Second trimester, lectures and recitations, three hours, and laboratory, ten hours a week. Third trimester, lectures and recitations, three hours, and laboratory, six hours a week. Total, lectures and recitations, 65 hours, and laboratory, 165 hours.

Professor Shaffer, Dr. Morris, Mr. Hubbard, 
Mr. Shackelford

4. **Advanced Work.** Courses of laboratory work and selected reading in Biological Chemistry will be arranged to suit individual needs.

5. **Research.** The facilities of the department are available to students qualified to undertake investigation in Biological Chemistry.

6. **Seminar.** Conducted jointly by the Departments of Physiology and Biological Chemistry. Meetings at which papers of
current journals are presented and discussed. Open only to students who have credit in, or are taking, Physiology or Biological Chemistry. Once a week throughout the year.

Physiology

Joseph Erlanger, M.D. . . . Professor of Physiology
Walter E. Garrey, Ph.D., M.D. Associate Professor of Physiology
Robert A. Gesell, M.D. . . . Instructor in Physiology
R. E. Lee Gunning, A.B. . . . Assistant in Physiology and Pharmacology

1. Bio-dynamics and General Physiology of Animals. A course dealing with the physico-chemical analysis of tissue activity and animal reactions. The fundamental physiological properties of living organisms, such as irritability, conductivity, contractility, and automaticity will be studied with a view of determining how these properties are affected by varying the conditions of activity. Such factors as permeability, osmotic pressure, action of electrolytes, non-electrolytes and colloids, effects of gravity, light, heat and electric currents will be considered. An elementary knowledge of physics, chemistry, and biology is essential, and some college work in these sciences is desirable. The laboratory work can be adapted to the preliminary training of the individual student. The course is open to students in the Department of Arts and Sciences (except Freshmen) and will be especially adapted to the needs of those preparing for medicine, and doing advanced work in zoology. Two conferences and two laboratory periods occupying two half days. Second half of the year.

Professor Garrey

First and Second Years

2. Physiology. Lectures. This course is designed especially to meet the needs of students of medicine, but is open to properly prepared students in the College. It consists of lectures, demonstrations and recitations covering systematically the field of human physiology. As far as practicable the lectures are descriptive of experiments demonstrated in the lecture room. Free use is made of charts, models, lantern slides and records for the purpose of bringing to the attention of the student the experimental basis of
those principles of the subject that do not lend themselves readily to experimental demonstration. Weekly recitations are held upon the subject matter of the lectures. The lectures begin in the third trimester of the first year and are continued during the first and second trimesters of the second year. Properly prepared students in the College and, under exceptional circumstances, medical students will be permitted to begin the course at the opening of the college year. The course is so arranged that students are enabled to acquire some knowledge of anatomy, embryology, histology, neurology, and biological chemistry before the physiological aspects of the related topics are considered. The following subjects are covered in the lectures: muscle and nerve, central nervous system, senses, blood, circulation, respiration, secretion, digestion, nutrition, and reproduction. Only those students will be admitted to the course who have completed or have begun the study of anatomy, histology, and biological chemistry. Total 120 hours.

Professor Erlanger, Professor Garrey, Dr. Gesell, Mr. Gunning

3. Physiology. Laboratory Course. This course must be taken in conjunction with Physiology 2. The experiments are so arranged as to serve at one and the same time to illustrate the fundamental principles of physiology and to familiarize the student with the more important bio-physical methods employed in experimental physiology and medicine. The class works in groups of two. Each group has its individual table, which is supplied with all the apparatus necessary for the performance of the general experiments. To the groups is assigned in rotation the apparatus needed for the performance of special experiments. As far as practicable the students serve as subjects of the special experiments and study upon themselves by quantitative methods certain phases of the physiology of the circulation, respiration, central nervous system, vision, etc. The instruction in the laboratory is largely individual. Recitations and conferences are held once a week, at which the principles and the results of the experiments are critically discussed. Students are required to make careful
notes of the experiments. The first trimester of the second year. Total 120 hours.

Professor Erlanger, Professor Garrey, Dr. Gesell

4. Demonstration Methods. This course is designed primarily for students preparing to teach advanced physiology, and who may desire a wider experience in experimental physiology than can be gained in Courses 2 and 3. It consists mainly of experiments demonstrated in Course 2. The time and the amount of work are not limited, except that assistance must be arranged for by definite engagements.

5. Research. The facilities of the laboratory will be offered to qualified students for the investigation of their own problems or of problems which the department is prepared to suggest.

6. Journal Club. The Journal Club, conducted conjointly by the Departments of Biological Chemistry and Physiology, meets once a week for the discussion of papers of physiological interest appearing in the current journals. This course is open to properly prepared students only. Once a week throughout the year.

Pharmacology

Dennis E. Jackson, Ph.D., M.D. . . . Associate in Pharmacology
R. E. Lee Gunning, A.B . . . . Assistant in Physiology
and Pharmacology

1. Pharmacology. (a) Lectures, stereopticon illustrations, recitations, and demonstrations covering the general field of pharmacology. Emphasis is laid on both the practical and the theoretical phases of the subject. Special attention is given to the methods of diagnosis and treatment of poisoning by the commoner drugs. The work done in this course is intimately correlated with that of the laboratory. Students are urged, in so far as possible, to keep in touch with the current literature dealing with the various drugs as they are taken up in the lectures. Third trimester of the second year. Courses a and b are taken together by the regular medical students, but Courses a and 4 may be taken alone by special students. Prerequisite, Anatomy, Neurology, Biological Chemistry, Physiology 2 and 3. Total 44 hours.

Dr. Jackson
(b) Laboratory Course. Students work in groups of four or five. In so far as is practicable students study in their own experiments all the pharmacological reactions which can be demonstrated by ordinary laboratory processes. The laboratory work is almost wholly carried out on mammalian forms. Complete records of each experiment, giving all the data which do not lend themselves readily to graphic methods, are kept and filed together with the tracings in permanent note books. Complete sets of apparatus for conducting the experiments are supplied. Two days each week during the third trimester of the second year. Total 66 hours.

Dr. Jackson, Mr. Gunning

2. Advanced Course. This consists of an experimental study of the pharmacological action of rare or selected drugs. Opportunity is given for a study of the methods and processes ordinarily used in pharmacological laboratories. Hours to be arranged.

Dr. Jackson

3. Research. The facilities and equipment of the laboratory are open to those who wish to carry out original investigations. Special efforts have been made to secure a full collection of drugs. Hours to be arranged.

Dr. Jackson

4. History of Pharmacology. This course consists of a series of six lectures. It is intended primarily for the second year class, but is open to all others who care to attend. Each lecture is fully illustrated by means of lantern slides. The course will be given in relation to Course 1(a) at times convenient for students of the second year class.

Dr. Jackson

Pathology and Bacteriology

Eugene L. Opie, M.D. . . Professor of Pathology
Ernst F. Tiedemann, M.D. Associate Professor of Bacteriology
George M. Smith, M.D. . . Associate Professor of Pathology
Walter S. Thomas, M.D. . Associate in Pathology
Howard H. Bell, M.D. . . Assistant in Pathology
H. C. Hochdorfer, M.D. . Assistant in Pathology
First Year

1. Bacteriology. Bacteriology will be given to the First Year Class in the third trimester. The course is a general survey of the entire field of bacteriology from the biological point of view. Special attention is given to the subjects of fermentation, putrefaction and toxin production, sterilization and disinfection, the nature of infection and its effects. In the laboratory the methods of observing and staining bacteria and methods of bacteriological diagnosis are taught. Total 121 hours.

Professor Tiedemann, Dr. Thomas, Dr. Bell

Second Year

2. Pathology. Prerequisite courses for pathology are represented by the required work of the first year in anatomy, biological chemistry, and bacteriology. Graduate students in the Department of Arts and Sciences whose major work lies in biology may elect pathology as a minor at the discretion of the departments concerned. The course is subdivided as follows:

(a) Lectures and Laboratory Work. Pathology is taught during the first two thirds of the second year. Instruction includes lectures, demonstrations, recitations, and work in the laboratory. General pathology will be taught by lectures given in association with the study of the gross and histological characters of the lesions concerned and will be illustrated by such experiments as are suited to class instruction. Pathological histology will be studied by means of sections stained for microscopic examination by the student, supplemented by specially prepared specimens which are loaned; the student is urged to describe and to draw the lesions he finds. Lectures and laboratory work, 11 hours a week in the first trimester and 14 hours in the second trimester. Total 272 hours.

Professor Opie, Professor Smith, Dr. Thomas, Dr. Bell

(b) Recitations. The work of each week is reviewed by a recitation, in which effort is made to determine how accurately the student has grasped the subjects studied in the laboratory and their relation to general considerations not adapted to demonstration before the class. One hour a week. Total 22 hours.

Professor Opie, Professor Smith
(c) **Conduct of Autopsies.** Whenever material is available autopsies are performed before the class. Students are instructed in the methods of post-mortem examination and in small groups have opportunity to practice the methods employed. Special attention is given to the preparation of orderly records.

   Professor Opie, Professor Smith, Dr. Thomas, Dr. Bell

(d) **Gross Pathology.** Fresh pathological tissues are demonstrated to the class divided into small sections, and students study by personal contact the lesions which occur. Fresh material is supplemented by organs preserved as museum specimens. By means of sections prepared by freezing, the relation of gross to histological changes is defined. One or two hours once a week. Total 44 hours.

   Professor Smith, Dr. Thomas, Dr. Bell

3. **Lectures on Infection and Immunity.** Lectures on the nature of infection and immunity will be given in the first trimester of the Second Year. Total 24 hours.

   Professor Tiedemann

4. **Study of Serum Reactions.** The changes which occur in blood as the result of immunization will be studied in the laboratory. Students will perform reactions which demonstrate the existence of anticoagulant and complement, precipitins and other substances; they will determine the strength of an agglutinating serum, and will study the serum reactions used for the diagnosis of syphilis. Laboratory work, 2 hours a week during six weeks of the first trimester. Total 12 hours.

   Professor Tiedemann, Dr. Thomas

5. **Clinical and Pathological Conference.** The specimens from autopsies are studied with reference to the clinical histories and the gross and microscopic anatomy. One hour once a week during the Fourth Year.

   Professor Smith, Dr. Thomas

6. **Special Study and Research.** Those who have the training necessary for advanced work are encouraged to undertake special
study of certain limited topics, for example, surgical pathology, the pathology of special organs or tissues, etc. Opportunity will be afforded for special research in histological pathology, experimental pathology, and bacteriology. The laboratory is provided with the apparatus usually employed in such investigation.

**Medicine**

George Dock, M.D. . . . . . Professor of Medicine
Francis R. Fry, M.D. . . . Clinical Professor of Neurology
Elsworth Smith, Jr., M.D. . . Clinical Professor of Medicine
G. Canby Robinson, M.D. . Associate Professor of Medicine
Albert E. Taussig, M.D. . Associate Professor of Medicine
Sidney I. Schwab, M.D. . Associate in Neurology
Malcolm A. Bliss, M.D. . . Instructor in Psychiatry
Walter Baumgarten, M.D. . Instructor in Medicine
Ralph W. Mills, M.D. . . . Instructor in Medicine
Frederick J. Fahlen, M.D. . Instructor in Medicine
Jerome E. Cook, M.D. . . . Instructor in Medicine
Leland B. Alford, M.D. . . Instructor in Neurology
Louis H. Hempelmann, M.D. . Assistant in Medicine
Walter Fischel, M.D. . . . Assistant in Medicine
Richard H. McBaine, M.D. . Assistant in Medicine
Hugh McCulloch, M.D. . . Assistant in Medicine
W. H. Olmsted, M.D. . . . Assistant in Medicine

**Second Year**

1. **Physical Diagnosis.** Demonstrations and practical exercises in the technique of physical diagnosis and the signs elicited by inspection, palpation, percussion, and auscultation of the circulatory and respiratory organs in health. The required reading must be done out of class hours. 44 hours.

   Professor Robinson

2. **Medicine. Recitation in Medicine.** The beginning of a course of recitations based upon the reading of a prescribed textbook of medicine. For 1914-15: Diseases of the Digestive System. Instruction in preparation of clinical histories is given. Students attend the Propaedeutic Clinic and the Medical Dispensary. For
a description of these courses, see Medicine 6 below. Total 55 hours.

Professor Dock

3. Therapeutics. A course designed to give the student a practical knowledge of the methods, the various drugs and agencies employed in the treatment of disease. The general conditions under which each drug is used in pathological conditions, and its application are fully discussed. The action of such drugs as are indicated in certain diseases, and the best preparation to be used, are thoroughly considered. 22 hours.

Dr. Fahlen

Third Year*

4. Physical Diagnosis. Practical work and demonstrations with special reference to physical signs in patients with diseases of the organs of the thorax and abdomen. Required reading must be done out of class hours; occasional oral and written reviews are held; records and diagrams of the results of the work must be made. Two hours a week throughout the year. The class is divided into sections. 66 hours.

Dr. A. E. Taussig, Dr. Cook

5. Clinical Chemistry and Microscopy. A laboratory course in methods of microscopic, bacteriological, and chemical diagnosis. The subjects are the urine, blood, stomach contents, sputum, faeces and puncture fluids. Material is obtained from cases in the hospitals and dispensaries. The work is almost wholly practical and considerable reading is required outside of laboratory hours. Microscope and haemocytometer are furnished to be retained for use throughout the course. 88 hours.

Professor Robinson

6. Medicine. The course is composed of the following subdivisions:

(a) Recitations in Medicine. Continuation of Course 2. In these two courses, completed at the end of the third year, the aim

*The second year class of 1914-15 will begin the work here assigned to the third year in the third trimester of the second year.
is for the student to gain a theoretical knowledge of the most important internal diseases according to the current classification. Diseases that can be thoroughly studied in the clinics are passed over rapidly, with special attention to etiology and pathology. 66 hours.

Dr. Cook, Dr. McCulloch

(b) Medical Dispensary. Clinical work in which each student serves as a clinical clerk. Students take histories, make examinations of blood, sputum, secretions and excretions, and assist in other details of out-patient work. Two hours, three times a week, one trimester. 66 hours.

Professor Robinson, Dr. Mills, Dr. Fischel, and Assistants

(c) Propaedeutic Clinic. The observation and interpretation of symptoms and signs in ward and dispensary patients, with special reference to pathological physiology and its relation to diagnosis. Pathological secretions and excretions, fluids, and other specimens derived from patients are studied in connection with other features of disease. One hour, once a week throughout the year. 33 hours.

Professor Dock

(d) Clinical and Pathological Conferences. The specimens from autopsies on medical patients are studied with reference to the clinical histories and the gross and microscopic anatomy. 33 hours.

Professor Dock, Professor Smith, Dr. Thomas

7. Advanced Work in Laboratory Diagnosis. An elective course for those qualified. Undergraduates who can devote at least two trimesters to the work and graduates in medicine with the necessary previous training who wish to investigate problems in clinical pathology are eligible. Hours to be arranged.

Professor Robinson

8. Dietetics. Lectures and recitations upon foods, beverages, and condiments in health and disease. 11 hours.

Dr. Mills
9. Neurology. The course in Neurology is composed of the following subdivisions:

(a) Neuropathology. Following a résumé of neural anatomy, the gross and microscopic lesions of disease of the nervous system are studied, with practical exercises in the examination, preservation and description of diseased tissues. 22 hours.

Dr. Schwab, Dr. Alford

(b) Clinical Neurology and Psychiatry, Introductory Course. Lectures and demonstrations on the clinical anatomy and physiology of the nervous system and allied subjects. Carefully prepared histories of actual cases will be used to illustrate the subjects which have been touched upon. 22 hours.

Dr. Schwab

(c) Neurological Dispensary. Exercises in the methods of diagnosis and treatment of nervous diseases, including electro-diagnosis and treatment. Two hours, once a week during one trimester. Total 22 hours.

Dr. Schwab, Dr. Bliss, Dr. Alford

Fourth Year

10. Medicine. The course is subdivided as follows:

(a) Medical Ward Work. The class is divided into three sections. Each student is in daily attendance three hours for eleven weeks. Ward rounds 9-10 a.m. daily. The students are assigned cases in the medical wards and are required to write the histories and make physical and laboratory examinations, write résumés with diagnosis and prognosis and describe treatment in detail. The patients are examined, the work of the section scrutinized and criticized, methods of diagnosis and treatment discussed and practiced, and special reading assigned. The specimens from autopsies on medical patients are studied with reference to the clinical histories and the gross and microscopic anatomy. See Medicine 6 (d). 150 hours.

Professor Dock, Professor Smith, and Assistants
(b) Clinical Conferences. One hour twice a week the Fourth Year Class meets at Barnes Hospital for a clinical conference. Patients whose cases have been investigated by students working in the wards are presented before the class and diagnosis, pathology, and treatment discussed from various points of view. Special attention is given to prescription writing in connection with actual patients. 66 hours.

Professor Dock


Dr. Schwab

12. Psychiatry. Demonstrations of selected cases of mental disease. Two hours a week, five weeks. 10 hours.

Dr. Bliss

13. Clinical Lectures on Internal Medicine. St. Louis Mullanphy Hospital, one hour, once a week. 11 hours.

Professor Smith

14. Graphic and Fluoroscopic Methods in Diseases of the Circulation. A course is given at the Barnes Hospital to a limited number of students. 11 hours.

Dr. A. E. Taussig

15. Diagnosis and Treatment of Diseases of the Digestive Tract. (Oesophagus, stomach, intestines, liver, pancreas.) Including the new methods of diagnosis, such as fluoroscopy, oesophagoscopy, sigmoidoscopy, the practical application of the stomach tube, etc. One trimester, once a week, 22 hours.

Dr. Mills


Professor Dock, Dr. Fischel
17. Electrocardiography. A practical course in the clinical application of the string galvanometer, open to a limited number of those who have had Course 14 or to graduates or undergraduates with special experience in graphic methods in diseases of the circulation. Hours by special arrangement.

Professor Robinson

Dermatology

Martin F. Engman, M.D. . . Clinical Professor of Dermatology
W. H. Mook, M.D . . . . Instructor in Dermatology

Third Year

(a) Dermatology. A lecture course on diseases of the skin and syphilis, by which the student will be prepared to understand clinical dermatology in the succeeding year. This course will be a general survey of the etiology, symptomatology, pathology and treatment of skin diseases and the history and pathology of syphilis. 11 hours.

Professor Engman

Fourth Year

(b) Dermatology. (Dispensary.) Clinics in which the student examines patients, makes diagnosis and outlines the treatment, under the supervision of an instructor. 33 hours.

Professor Engman, Dr. Mook

Medical Jurisprudence

Cleveland A. Newton . . . Instructor in Medical Jurisprudence

Medical Jurisprudence. A course given in the fourth year embraces medical evidence and testimony; expert testimony; dying declarations; rights of medical witnesses; establishing identity from living and dead bodies; sudden death from natural causes and by violence; criminal acts determined by medical knowledge; the legal relation of physician to patients and the public, as to the cause of death, prevention of disease and malpractice. 22 hours.

Mr. Newton
Surgery
Fred T. Murphy, M.D. . . Professor of Surgery
Paul Y. Tupper, M.D. . . Clinical Professor of Surgery
Harvey G. Mudd, M.D. . . Clinical Professor of Surgery
Frank J. Lutz, M.D. . . Clinical Professor of Surgery
Ernest Sachs, M.D. . . Associate Professor of Surgery
Willard Bartlett, M.D. . . Associate in Surgery
Harry McC. Johnson, M.D. Associate in Genito-Urinary Surgery
Vilray P. Blair, M.D. . . Associate in Surgery
Nathaniel Allison, M.D. . . Associate in Orthopedic Surgery
Malvern B. Clopton, M.D. Associate in Surgery
John R. Caulk, M.D. . . Instructor in Genito-Urinary Surgery
Arthur O. Fisher, M.D. . . Instructor in Surgery
Archer O'Reilly, M.D. . . Assistant in Orthopedic Surgery
Barney Brooks, M.D. . . Assistant in Surgery
Roland F. Fisher, M.D. . . Assistant in Surgery
Robert E. Schlueter, M.D. . Assistant in Surgery
Walter C. G. Kirchner, M.D. Assistant in Surgery
Charles E. Hyndman, M.D. Assistant in Surgery
Charles A. Stone, M.D. . . Assistant in Orthopedic Surgery

Second Year
1. Introduction to Surgical Pathology and Surgical Technique. A laboratory course in which the process of repair incident to surgical wounds is studied in microscopical sections, and in gross specimens. The students test and practice the various methods of sterilization of hands, instruments, etc., using bacterial cultures as checks on these methods. Five hours weekly during the second trimester. 55 hours.
Professor Murphy, Dr. R. F. Fisher

Third Year*
2. Surgery. The course is subdivided as follows:

(a) Surgical Out Clinic. For one trimester, four times weekly, a third of the class serve as dressers in the Surgical Out

* The second year class of the session of 1914-15 will begin the work here assigned to the third year in the third trimester of the second year.
THE MEDICAL SCHOOL.

Clinic. Cases are examined by the students and demonstrated to them. Under the supervision of the assistants, the students take histories, and apply dressings and bandages. 88 hours.

Professor Murphy, Professor Sachs, and Assistants

(b) Surgical Recitations. A weekly recitation during the year on assigned surgical reading. A standard text-book is followed and so far as possible the essentials not given in other courses are covered. 33 hours.

Dr. Clopton

(c) Operative Surgery. A three-hour exercise given weekly during the third trimester. Actual case histories are discussed and the operation indicated from this discussion is performed on animals by the students. The surgical technique is as rigid as in the operating room. 33 hours.

Professor Sachs

(d) Surgical Clinic. A weekly clinic throughout the year. See Course 4 (b). 33 hours.

Professor Murphy

(e) Surgical Conference. The pathology, diagnosis and treatment of surgical conditions as illustrated by ambulatory outpatient cases are discussed. A weekly exercise during the year. Total 33 hours.

Professor Sachs, Dr. Brooks

(f) Genito-Urinary Surgery. Lectures and recitations in genito-urinary surgery. 11 hours.

Dr. Johnson, Dr. Caulk

3. Surgical Pathology. A weekly exercise of two hours at which specimens from the operating room and from the museum are studied in gross and microscopically. When possible, case histories are presented with the specimens. 66 hours.

Professor Murphy, Dr. Brooks, Dr. R. F. Fisher
Fourth Year

4. Surgery. The course is subdivided as follows:

(a) Surgical Wards. For one trimester the student serves as assistant in the surgical wards from 9 a.m. to 12 m. five days a week.

Rounds are made from 9 to 10 a.m. Professor Murphy and the Surgical Resident discuss the general surgical cases. Dr. Sachs makes rounds on the special neurological cases once a week. Dr. Allison makes rounds from time to time on the special orthopedic cases.

The students, under the direction of the house staff, take case histories, make physical examinations, and the usual laboratory examinations. They assist at operations and with the anaesthetic, and do the routine surgical dressings. One day each week the group spends the period from 9 a.m. to 12 m. at the St. Louis Children’s Hospital where Dr. Allison demonstrates the orthopedic cases and Dr. Clopton the general surgical cases. Total 198 hours.

Professor Murphy, Professor Sachs, Dr. Allison, Dr. Clopton, Dr. Brooks

(b) Surgical Clinic. A weekly exercise throughout the year. Students of the fourth year examine the patients and present the cases for discussion. Students of the third year attend this exercise. 33 hours.

Professor Murphy

(c) Lectures on Surgery. Once a week for three trimesters. Lectures will be given by different men on subjects of special surgical importance and interest. 33 hours.

Professor Lutz, and others

5. Genito-Urinary Out Clinic. The student serves as dresser in the Genito-Urinary Out Clinic six times a week for one half trimester under the same conditions as in Course 2. 33 hours.

Dr. Johnson, Dr. Caulk
6. Orthopedic Surgery. Instruction is given at the Barnes Hospital and at the St. Louis Children’s Hospital as described in Course 4 (a). Special lectures on this subject will be given in Course 4 (c).

Dr. Allison

7. Operative Surgery on the Cadaver. Two hours weekly during the third trimester. Instruction is given by the actual practice of surgical operations performed on the cadaver. 22 hours.

Professor Tupper

8. Advanced Operative Surgery. Two-hour exercises are given once weekly during the second trimester. The students will be instructed in the technique of special operations by performing these operations on animals under rigid asepsis, and then will be encouraged to work at some unsolved surgical problem. 22 hours.

Dr. Bartlett

9. Surgical Pathology. Members of the Surgical Group of the fourth year class take charge of the specimens which are received at the Surgical Laboratory and under the supervision of the staff describe the gross material and make the microscopic diagnosis.

Ophthalmology

Arthur Eugene Ewing, M.D. Clinical Professor of Ophthalmology
Adolf Alt, M.D. . . . Clinical Professor of Ophthalmology
Meyer Wiener, M.D. . . . Associate in Ophthalmology
Julius H. Gross, M.D. . . . Assistant in Ophthalmology
John Green, Jr., M.D. . . Assistant in Ophthalmology
William E. Shahan, M.D. . Assistant in Ophthalmology

(a) Ophthalmology. Eleven lectures are given in the third trimester of the third year. Practical instruction is given to small sections of the fourth year class twice weekly during one trimester. Under the supervision of instructors, the students take histories, make complete examinations, and carry out the routine treatment. 55 hours.

Professor Ewing, Dr. Wiener, and Assistants
(b) Ophthalmological Pathology. A course in pathology of diseases of the eye, consisting of lectures, demonstrations and recitations, is given during the second and third trimesters of the fourth year. 22 hours.

Professor Alt

Otology

John B. Shapleigh, M.D. . . . Clinical Professor of Otology
Albert F. Koetter, M.D. . . . Instructor in Otology
Harry W. Lyman, M.D. . . . Assistant in Otology
Louis K. Guggenheim, M.D. . Assistant in Otology

OtoLOGY. Lectures are given to sections of the fourth year class upon the anatomy and the more common diseases of the ear and are followed by practical instruction in the methods of examination. Patients are assigned to students, who are required, under supervision, to make examinations and diagnoses, and carry out routine treatment. Also in the Division for Disturbance of Speech and Voice, a limited amount of instruction is given by Dr. Guggenheim. 44 hours.

Professor Shapleigh, Dr. Koetter, and Assistants

Laryngology and Rhinology

Greenfield Sluder, M.D. . . Clinical Professor of Laryngology and Rhinology
William E. Sauer, M.D. . . Instructor in Laryngology and Rhinology
H. Edward Miller, M.D. . . Assistant in Laryngology and Rhinology

LARYNGOLOGY AND RHINOLOGY. Eleven lectures are given during the third trimester of the third year. Small sections of the fourth year class receive practical instruction twice weekly in the out-patient clinics. 55 hours.

Professor Sluder, Dr. Sauer
Obstetrics and Gynecology

Henry Schwarz, M.D. . . . Clinical Professor of Obstetrics
Harry S. Crossen, M.D. . . . Associate in Gynecology
George Gellhorn, M.D. . . . Associate in Gynecology
Fred J. Taussig, M.D. . . . Associate in Gynecology
Henry J. Storrs, M.D. . . . Instructor in Obstetrics
Adolph G. Schlossstein, M.D. . . . Assistant in Obstetrics
William H. Vogt, M.D. . . . Assistant in Obstetrics
G. D. Royston, M.D. . . . Assistant in Obstetrics
Q. U. Newell, M.D. . . . Assistant in Obstetrics

Obstetrics

Third Year

1. Obstetrics. The course consists of recitations and demonstrations supplemented by laboratory work and clinical exercises throughout the year, based upon assigned reading of a prescribed text-book.

Instruction in the first trimester covers the anatomy and physiology of the female organs of generation, including the anatomy of the pelvis, ovulation and menstruation, fertilization and development of the ovum.

The work of the second trimester deals with the physiology of pregnancy, labor and the puerperium; the signs and symptoms of pregnancy are studied in the dispensary and on house-patients; the mechanism of labor is demonstrated in the delivery room; puerperal involution, lactation and the physiology of the newborn are taught in the lying-in wards and in the nursery.

The third trimester is devoted to the study of the pathology of pregnancy, labor and the puerperium. Throughout the entire session the student is drilled in obstetrical diagnosis, both by laboratory and by clinical methods, to prepare him for the clinical work in Obstetrics which begins May 1 of the third year. Recitations and demonstrations two hours a week during the year; laboratory work and clinical exercises (in sections of one third of the class) four hours a week for eleven weeks. Total 110 hours.

Professor Schwarz, Dr. Royston, Dr. Newell
2. GYNECOLOGY. RECITATIONS, AND DEMONSTRATIONS. During the first trimester of the third year the anatomy and physiology of the female pelvic organs are considered in connection with Obstetrics 1, and the foundation is laid for all courses in obstetrics and gynecology. One hour a week during the second and third trimesters. Total 22 hours.

Dr. Gellhorn, Dr. Taussig

Fourth Year

3. OBSTETRICS. The course is arranged as follows:

(a) ATTENDANCE ON OBSTETRICAL CASES. The obstetrical service furnishes from six hundred to seven hundred cases a year (about 150 hospital cases and over 500 out-clinic cases). To each student is assigned a minimum of ten cases which he watches during pregnancy, attends personally during delivery and visits during the lying-in period; all work is done under supervision of instructors; the histories furnished by the students are discussed in clinical conference. Cases of special interest and those requiring major operations are delivered before sections of the class and do not count toward the minimum requirement of ten cases for each student. From May 1 of the third year to May 1 of the fourth year (time exclusive of the hours allotted to Obstetrics on the schedule of instruction).

Professor Schwarz, Dr. Schlossstein, Dr. Royston, and Assistants

(b) OPERATIVE OBSTETRICS AND OBSTETRICAL THERAPEUTICS. The course consists of lectures and demonstrations and is supplemented by manikin work. Lectures and demonstrations one hour a week during the first and second trimester; manikin work in sections one hour a week for eleven weeks. Total 33 hours.

Professor Schwarz, Dr. Schlossstein, Dr. Vogt

(c) OBSTETRICAL WARD WORK. Sections composed of one sixth of the fourth year class act as clinical clerks in the obstetrical division of the Barnes Hospital for a period of five and one half weeks. The members of these sections, under the guidance of instructors, participate in the entire work of the division; they
attend patients in the dispensary; take histories and make examinations (including laboratory work); make ward rounds at stated hours; perform minor operations under supervision and assist at major operations; attend clinical conferences and manikin practice. Sections of one sixth of the class, eight hours a week for five and one half weeks. Total 44 hours.

Professor Schwarz, Dr. Storrs, and Assistants

4. **Gynecology.** No sharp line is drawn between clinical gynecology and clinical obstetrics. Much of the laboratory work in the obstetrical courses and many of the complications of the puerperium may be classed as gynecological while the work in the gynecological dispensary, especially the early diagnosis of pregnancy and the treatment of threatened or incomplete abortion, is largely obstetrical. The work in Gynecology is subdivided as follows:

(a) **Work in the Gynecological Dispensary.** Two hours a week for eleven weeks. Total 22 hours.

(b) **Gynecological Ward Work and Clinics.** Four hours a week for five and one half weeks. Total 22 hours.

Professor Schwarz, Dr. Crossen, Dr. Gellhorn, Dr. Taussig, and Assistants

5. **Special Investigation and Research.** Carefully kept records of several thousand labor cases, large clinical material, excellent laboratory facilities, a good department library, and a sufficient number of instructors enable the department to offer those who possess the necessary training an opportunity for original work under the guidance of instructors detailed for the purpose.

**Pediatrics**

George M. Tuttle, M.D. . . . Clinical Professor of Pediatrics
Borden S. Veeder, M.D. . . . Associate in Pediatrics
Adrien S. Bleyer, M.D. . . . Assistant in Pediatrics
Philip C. Jeans, M.D. . . . Assistant in Pediatrics
T. C. Hempelmann, M.D. . . . Assistant in Pediatrics
Meredith R. Johnston, M.D. . . Assistant in Pediatrics
Phelps G. Hurford, M.D. . . . Assistant in Pediatrics
Third Year

1. PEDIATRICS. CLINICS, LECTURES, AND RECITATIONS. The growth and development of the normal infant and child, the nutritional requirements of the infant and the disorders of nutrition, infectious diseases, and the differences in the manifestations of disease in the child and in the adult are considered in this course. The subjects are illustrated by the demonstration of patients in the St. Louis Children's Hospital. Total 66 hours.

   Dr. Veeder

2. PHYSICAL DIAGNOSIS. Practical exercises in the physical diagnosis of pathological conditions. Sections of one third of the class two hours a week for one trimester. 22 hours.

   Dr. Veeder

Fourth Year

3. PEDIATRICS. The course is subdivided as follows:

   (a) WARD WORK. Ward rounds are made daily at 9 a. m. Cases are assigned for special study, and the students are required to make physical and laboratory examinations. Each student spends at least one week in the contagious wards, and subsequently follows the cases admitted during his service in this ward. One half of one section of the fourth year class is scheduled for daily ward work during two hours at the St. Louis Children's Hospital for a period of five and a half weeks. Total 66 hours.

   Dr. Veeder and Assistants

   (b) CLINICAL CONFERENCE. The diagnosis and treatment of cases assigned for special study are discussed. Two hours a week for five and one half weeks. Total 11 hours.

   Dr. Tuttle

Preventive Medicine

   (a) PREVENTIVE MEDICINE AND HYGIENE. Lectures upon the transmission and prevention of infectious diseases (including the important tropical diseases), ventilation, occupational diseases, and other subjects bearing upon the maintenance of health will be given once a week during two trimesters. Total 22 hours.

   Dr. Bleyer
(b) Preventive Medicine. Lectures upon the transmission and prevention of certain diseases caused by bacteria will be given once a week during one trimester. Total 11 hours.

Professor Tiedemann

COURSES FOR PHYSICIANS.

The Washington University Medical School offers special courses for physicians in the Spring Trimester, extending from March 15 to May 29, and in June. The courses in the Spring Trimester offer instruction in medicine, surgery, or obstetrics, and in various specialties. There is a course on the physiology of the circulation. Courses in medicine, surgery, and obstetrics, and laboratory work in anatomy, pathology, and bacteriology are offered in June. These courses are given in the Barnes Hospital, the St. Louis Children's Hospital, the St. Louis City Hospital, and in the laboratories of the Medical School.

COURSES EXTENDING FROM MARCH 15 TO MAY 29.

The following courses will be given during the Spring Trimester from March 15 to May 29, 1915:

General Medicine. The course will be given at the Barnes Hospital, the Washington University Dispensary, and the St. Louis Children's Hospital. Graduate students will be admitted to the regular clinical exercises during the Spring Trimester from March 15 to May 29, 1915. Ward rounds will be made daily. There will be demonstrations in the dispensary, clinics in general medicine, and neurology, and clinical pathological conferences. These exercises will be supplemented by work for graduate students in physical diagnosis, clinical chemistry and microscopy, and bacteriology. A series of lectures will be given by Dr. Dock on Internal Diseases with External Manifestations. Daily from 9 a. m. to 1 p. m.

Professor Dock, Professor Robinson, Dr. Schwab, and Assistants

Diagnosis and Treatment of Heart Disease. A practical course will be given in the technique of polygraphic and electrocardiographic methods for the study of cardiac disorders; their
use in diagnosis and treatment of heart disease will be considered. Three afternoons a week, from 2 to 4 p. m.

Professor Robinson

**Psychiatry and Neurology.** Diagnostic methods in psychiatry with special reference to early cases will be studied at the City Hospital and Sanitarium. Diagnostic methods in organic and functional nervous diseases will be studied at the City Hospital. Daily, from 10:30 a. m. to 12:30 p. m.

Dr. Barnes, Dr. Bliss

**Neurology.** Clinical instruction in diagnosis and treatment of diseases of the nervous system will be given in the Washington University Dispensary and in the Barnes Hospital. The number of students is limited. Daily, from 10 a. m. to 12 m.

Dr. Schwab, Dr. Alford

**Dermatology.** Clinical demonstrations of diseases of the skin and syphilis, including the technique of intravenous and intraspinous methods, will be made in the Washington University Dispensary and in the Barnes Hospital, City Hospital, and Barnard Free Skin and Cancer Hospital. Daily, from 10 a. m. to 12 m.

Professor Engman, Dr. Mook, Dr. Buhman, Dr. Weiss

**Histopathology of Diseases of the Skin.** A course on the histopathology of skin diseases and syphilis will be open to those familiar with histological technique. Hours by special arrangement.

Professor Engman, Dr. Mook

**General Surgery.** The course will be given in the Barnes Hospital and in the Washington University Dispensary. Graduate students will be admitted to the regular exercises in surgery. These exercises, together with the ward visiting, the operating work in the hospital and the out-patient work, will occupy the mornings from 9 a. m. to 12 m. The hour from 12 m. to 1 p. m. will be devoted to clinics and lectures.

Professor Murphy, Professor Sachs, Dr. Fisher, Dr. Brooks
Genito-Urinary Surgery. Graduate students will be admitted to the regular exercises at the Washington University Dispensary. The material will illustrate the diagnosis and treatment of the usual genito-urinary conditions. Daily, from 10 a. m. to 12 m.

Dr. Caulk and Assistants

Orthopedic Surgery. The course will be given at the Washington University Dispensary, at the Barnes Hospital, and at the St. Louis Children’s Hospital. Graduate students may take the routine section work of the clinics and receive instruction in the diagnosis and treatment of orthopedic conditions. Daily, from 10 a. m. to 12 m.

Dr. Allison, Dr. O'Reilly

Ophthalmology. Graduate students will be admitted to the clinics at the Washington University Dispensary. On Saturday afternoons there will be a special demonstration of histological and pathological specimens. Daily, from 2 to 4 p. m.

Professor Ewing, Professor Alt, and Assistants

Otolology. Cases will be demonstrated to graduate students and the clinical work of the class at the Washington University Dispensary will be supplemented by lectures and laboratory demonstrations. Daily, from 2 to 4 p. m.

Professor Shapleigh and Assistants

Rhinology. Graduate students may follow the work in the clinic at the Washington University Dispensary and at the St. Louis City Hospital. Special arrangements must be made personally with the instructor.

Professor Sluder or Dr. Sauer

Obstetrics and Gynecology. The course provides for systematic instruction in obstetrics and gynecology, including ward rounds, laboratory work, manikin exercises, operative clinics (at the Barnes Hospital and at the St. Louis City Hospital), dispensary work, and special lectures. Physicians who desire to devote most of their time to gynecology will be given the chance to do so, while those desiring a more thorough training in obstetrics will be permitted to attend cases of confinement in the Barnes Hospital and on the out-patient service. Those desiring
to attend courses in other departments may be excused from all or from part of the dispensary work which occupies the afternoons. Daily, from 9 a.m. to 1 p.m. and from 2 to 4 p.m.

Professor Schwarz, Dr. Crossen, Dr. Gellhorn, Dr. Taussig, Dr. Schlossstein, Dr. Royston, Dr. Newell

**Physiology of the Circulation.** A laboratory course, supplemented by demonstrations, designed to acquaint the practitioner with recent advances in the physiology of the circulation and with the principles underlying the newer physical methods for studying in man and animals normal and disturbed functions of the organs of the circulation. The subjects considered will include the properties of heart muscle, normal and disturbed sequence of the heart beat, including the more common types of cardiac irregularities; the electrocardiogram; the action of the cardiac nerves; study of the events of the cardiac cycle with the aid of the venous pulse (polygraph); determination of blood pressure in man; determination of the rate of transmission of the pulse wave; determination of velocity of blood flow in man; vaso-motor action in animals and man; the principles of photographic registration, etc. The class will work in groups of two and to the groups will be assigned in rotation the apparatus needed for the performance of the experiments. Instruction will be largely individual. Two afternoons a week. The class will be limited to twelve and the course will not be given if less than four register.

Professor Erlanger, Dr. Gesell

**Fees for Courses of the Spring Trimester**

A registration fee of $5.00 is required. A breakage deposit made at the time of registration will be returned at the end of the course after charges for breakage, if any, have been subtracted. A uniform fee of $25.00 will be charged either for a single course or for a combination of a morning course and one or, when possible, two afternoon courses.

**Courses Extending from June 1 to July 1**

The following courses will be given in June, beginning June 1 and ending July 1, 1915:
HUMAN DISSECTION. This course, open to both graduates and undergraduates, affords opportunity for such dissection as the individual may wish to elect. Instruction will be given mornings to meet the needs of the worker; the laboratory will be open throughout the day. Material will be assigned to groups of two. The course will not be given if less than four apply. Fee, $25.00.

Professor Terry, Dr. Danforth

PATHOLOGY. Instruction includes lectures, demonstrations and work in the laboratory. General pathology and pathological histology will be taught by lectures given in association with the study of the gross histological characters of the lessons concerned. Gross pathology is taught by fresh pathological tissues when available and by organs preserved as museum specimens. Daily, from 9 a.m. to 1 p.m. The course will not be given to less than four students. Fee, $25.00.

Professor Opie, Professor G. M. Smith

BACTERIOLOGY. The course is a general survey of the field of bacteriology. Methods of observing and staining bacteria and methods of bacteriological diagnosis are taught. Daily, except Saturdays, from 2 to 5 p.m. Fee, $25.00.

Professor Tiedemann

MEDICAL BACTERIOLOGY AND SEROLOGY. Methods for the preparation of cultures, animal inoculation, agglutination reactions and serum tests for syphilis, will be studied in the laboratory and explained by lectures. Daily, from 2 to 5 p.m. Fee, $25.00.

Dr. Thomas

MODERN METHODS FOR THE DIAGNOSIS AND TREATMENT OF PULMONARY TUBERCULOSIS. Physical, radiographic and tuberculin diagnosis and hygienic, tuberculin and artificial pneumothorax therapy will be considered. Three hours weekly at the City Hospital. The course will not be given to less than four students. Fee, $25.00.

Professor A. E. Taussig

MODERN METHODS FOR THE DIAGNOSIS AND TREATMENT OF CARDIAC DISEASE. Physical, radioscopic and graphic methods of
diagnosis and dietetic, intravenous and other methods of therapy will be considered. Three hours weekly at the City Hospital. The course will not be given to less than four students. Fee, $25.00.

Professor A. E. Taussig

 General Surgery. The surgical staff of the Washington University Unit at the City Hospital will demonstrate surgical conditions and treatment by the study of cases which are at the time available. Ward rounds, case discussions, and operations will occupy from 9 a. m. to 12 m. daily. Fee, $25.00.

Dr. A. O. Fisher, Dr. Kirchner, Dr. Schlueter, Dr. Hyndman

 Surgical Pathology. The gross and microscopical appearance of the specimens obtained at operations, the pathology of the more important surgical conditions, as well as the process of repair of the various tissues will be studied. Mondays, Wednesdays and Fridays at the surgical laboratory, from 2 to 4:30 p. m. The course will not be given to less than six students. Fee, $25.00.

Professor Murphy, Professor Sachs, Dr. A. O. Fisher, Dr. R. F. Fisher

Pediatrics. The course in diseases of infants and children will be given at the St. Louis Children's Hospital. The course occupies the entire morning from 9 a. m. to 1 p. m. Practical clinical work in the medical, infants' and contagious wards, and in the outpatient department will be given. Ward rounds daily from 9 to 10 a. m.; work in the General Clinic from 10 a. m. to 12 m., four days a week; and work in the Infant-feeding Clinic from 10 a. m. to 12 m., two days a week; under Dr. Jeans, Dr. Bleyer, and Dr. Hempelmann. Lectures on metabolism in infancy and infant-feeding, etc., will be given four hours a week, from 12 m. to 1 p. m., by Dr. Jeans. The technique of laboratory methods of particular importance in the diagnosis of the diseases of childhood will be considered. One hour a week, from 10 to 11 a. m. Fee, $25.00.

A registration fee of $5.00 and breakage deposit of $10.00 (see Fees for Courses of the Spring Trimester) are required.
WASHINGTON UNIVERSITY MEDICAL SCHOOL
Schedule of First Year. First Trimester 1915-16

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**OPTIONAL COURSES**

*Conference in Anatomy: Anatomy 11—Monday 2-3 p. m.*

*Analytical Chemistry: Chemistry 1—Monday 3-5 p. m.; Wednesday 2-5 p. m.* This course is required of those who do not present credit for Analytical Chemistry on admission.
# WASHINGTON UNIVERSITY MEDICAL SCHOOL
## Schedule of First Year. Second Trimester

### 1915-16

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<th>Hours</th>
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### Optional Courses

- Conference in Anatomy: Anatomy 11—Monday 2-3 p.m.
- Conference in Osteology: Anatomy 12—Wednesday 2-3 p.m.
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Optional Course

Conference in Anatomy: Anatomy 21—Monday 3-4 p. m.
### WASHINGTON UNIVERSITY MEDICAL SCHOOL

**Schedule of Second Year. First Trimester**

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**Optional Course**

*Study of Serum Reactions: Pathology 7—Wednesday 3 to 5 p.m. for six weeks.*
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## WASHINGTON UNIVERSITY MEDICAL SCHOOL

### Schedule of Third Year. First Trimester

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<td>Hours</td>
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</table>
This schedule is the same as that of the first trimester of the fourth year for the session of 1915-16.

Students who have entered the School after the completion of their second year, without credit for the clinical work given in the third trimester of the second year, will, in the third trimester of the third year, follow the schedule of the third trimester of the second year except that in place of pharmacology they will take the afternoon work of the third trimester of the third year.
WASHINGTON UNIVERSITY MEDICAL SCHOOL 1915-16

Schedule of Fourth Year. Group A., First Trimester; Group B., Second Trimester; Group C., Third Trimester.

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<td>Medical Jurisprudence I and II Trimester</td>
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<td>Ophthalmological Pathology II and III Trimester</td>
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<td>Surgery 6. Orthopedic Surgery, Barnes or St. Louis Children's Hospital.</td>
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<td>Obstetrics Lecture Obstetrics 8 I and II Trimester</td>
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WASHINGTON UNIVERSITY MEDICAL SCHOOL

Schedule of Fourth Year. Group C, First Trimester; Group A, Second Trimester; Group B, Third Trimester

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<td>Genito-Urinary O. P. D. Surgery 5</td>
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<td>3 to 4</td>
<td>Surgery Lecture Surgery 4</td>
<td>Medical Jurisprudence I and II Trimester</td>
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<td>Ophthalmological Pathology II and III Trimester</td>
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</table>
Washington University

David F. Houston,* A.M., LL.D., Chancellor

I. The Department of Arts and Sciences (Skinker road and Lindell boulevard)
   A  The College
      George O. James, Ph.D., Dean
   B  The School of Engineering
      Alexander S. Langsdorf, M.M.E., Dean
   C  The School of Architecture
      Alexander S. Langsdorf, M.M.E., Dean
      John B. Robinson, Professor in Charge

II. The Henry Shaw School of Botany (Shenandoah and Tower Grove avenues)
    George T. Moore, Ph. D., Engelmann Professor of Botany

III. The Law School (Skinker road and Lindell boulevard)
     William S. Curtis, LL.D., Dean

IV. The Medical School (Kingshighway and Euclid avenue)
     Eugene L. Opie, M.D., Dean

V. The Dental School (Twenty-ninth and Locust streets)
    John H. Kennerly, M.D., D.D.S., Dean

VI. The School of Fine Arts (Skinker road and Lindell boulevard)
     Edmund H. Wuerpel, Director

VII. The School of Social Economy (2221 Locust street)
     George B. Mangold, Ph.D., Director

The following schools, each with its separate and distinct corps of instructors, are also conducted under the charter of the University:

1  Smith Academy—for boys (Von Versen avenue and Windermere way)
    Frank Hamsher, A.B., Principal

2  Manual Training School—for boys (Von Versen avenue and Windermere way)
    William R. Vickroy, Ph.B., Principal

3  Mary Institute—for girls (Waterman and Lake avenues)
    Edmund H. Sears, A.M., Principal

* On leave of absence.