Saint Francis Hospital
School of Medical Laboratory Science
Saint Francis Hospital
School of Medical Laboratory Science
Tulsa, Oklahoma

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Program Director
What is Medical Laboratory Science?

- Often referred to as Medical Technology or Clinical Laboratory Science

- A diagnostic science that involves the performance of simple to complex testing procedures in a clinical laboratory

- Linking of technology and information to health and medicine
What are the responsibilities of a medical laboratory scientist?

- Aid in the diagnosis and treatment of disease by performing complex laboratory testing on blood specimens and other body fluids with both precision and accuracy in a timely manner.

- Use sophisticated biomedical instrumentation and technology, computers, and manual methods to perform laboratory testing.
“It is estimated that 70-80% of all health care decisions affecting diagnosis or treatment involve a pathology investigation, with individuals’ treatment decisions – and the monitoring of their response to treatment – often dependent on a range of pathology-based tests and investigations.”

Laboratory medicine accounts for less than 4% of total NHS expenditure

What kinds of diseases do laboratory tests detect?

- Cancer
- Heart attacks
- Diabetes
- Infectious mononucleosis
- Bacterial and viral infections
- Drugs of abuse
- Therapeutic drugs
What qualities must a person possess in the field of medical laboratory science?

- Problem solving skills
- Critical thinking skills
- Effective communication skills
- Multitasking
- Detail-oriented
- Work well both independently and as part of a team
- Commitment to the patient
What are the Educational Requirements?

- College
  - Math, Biological Science, Chemistry, and Other Recommended Courses
- Clinical Internship
  - NAACLS Accredited Medical Laboratory Science/Medical Technology Program
Does Oklahoma have a NAACLS accredited Medical Laboratory Science Program?

- Saint Francis Hospital, Tulsa
- Comanche County Memorial Hospital, Lawton
- Mercy Hospital, Ada
- Mercy Hospital, Ardmore
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- Mission - To provide an opportunity for carefully chosen men and women, whose interests are in biology and chemistry, to learn clinical laboratory science and laboratory medicine

- Goal - To produce graduates with technical and scientific competence for an entry level position in a healthcare facility
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Clinical Experience

- Phlebotomy
- Hematology
- Chemistry
- Blood Bank
- Microbiology
- Immunology
- Molecular Genetics
- Cytogenetics
Phlebotomy

- Proper collection, handling, and processing of blood specimens

Hematology

- Evaluation of normal/abnormal cells in blood
  - White blood cells
  - Red blood cells
  - Platelets
- Analysis of urine and other body fluids
- Assessment of the blood clotting system
  - Monitor patients on blood thinner
  - Factor deficiencies
Chemistry

- Biochemical analysis of blood and other body fluids to assess metabolic disorders and organ function
Immunology

- Involves antigen and antibody detection by latex agglutination, fluorescence, and immunodiffusion techniques
Blood Bank

- Performs pre-transfusion testing on red blood cells and serum in order to ensure that donated blood products are compatible with the recipient.
Microbiology

- Isolates, identifies, and performs antibiotic susceptibility testing on microorganisms
Genetics

- Molecular Genetics involves nucleic acid extraction and polymerase chain reaction (PCR) amplification.
- Cytogenetics consists of chromosome analysis (karyotyping) and the fluorescence in situ hybridization (FISH) technique.
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Admission Requirements

- Applicants must meet one of the following:
  - Baccalaureate Candidate (3 + 1 Option)
    3 years of college + 1 year MLS internship
  - Post Baccalaureate Candidate (4 + 1 Option)
    Baccalaureate degree + 1 year MLS internship
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Academic Requirement

- Minimum GPA for admission
  - 2.5 Overall GPA on a 4.0 scale
  - 2.5 GPA in biology/chemistry courses
  - Grade of “C” or better in prerequisite courses

Average Incoming GPA is 3.3
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**Academic Prerequisites**

- Biology (minimum of 16 credit hours)
  - Microbiology
  - Immunology
  - Anatomy and/or Physiology
  - Biological Science Elective(s)
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Academic Prerequisites

- Chemistry (minimum of 16 credit hours)
- Inorganic Chemistry (2 courses)
- Organic Chemistry
- Biochemistry
- Chemistry Elective(s)
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**Academic Prerequisites**

- Math
- College Algebra or higher
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Recommended College Courses

- Mycology, Virology, Parasitology
- Genetics, Molecular Biology, Cell Biology
- Instrumentation, Statistics, Pathogenic Microbiology
- Quantitative Analysis and Chemistry of Organic Compounds
Application Process: Step 1

- Submit application and official transcript(s) in the Fall of the year preceding entry into the program

- Application and official transcripts are due by October 15th

Late applications will not be accepted!
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Application Process: Step 2

- Submit the following additional information by November 1st:
  - List of courses in progress and/or planned
  - Academic references (2)
  - Employer reference (if applicable)
  - Criminal background report

Late additional information will not be accepted!
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Selection Criteria

- Ten applicants will be selected for admission based on the following:
  - Interview (oral and written)
  - Career motivation
  - Grade point average
  - Communication skills
  - Academic references (2)
  - Employment reference
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Clinical Internship

- Located onsite at Saint Francis Hospital in Tulsa, Oklahoma
- 51 week unpaid internship
- 40 hours per week of clinical education
  - 60% in clinical laboratory
  - 40% in classroom
Student Employment/Scholarships

- Part-time employment as a laboratory technician may be available to students on a limited basis during the year.

- Scholarship opportunities are available from Saint Francis Hospital, American Society for Clinical Pathology, and American Society for Clinical Laboratory Science.
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Completion of the MLS Program

- Baccalaureate candidate will earn 30 hours of college credit to complete a B.S. degree from the university and receive a certificate of completion and pin from the medical laboratory science program.
- Medical laboratory science program graduates are eligible to take the ASCP (BOR) national exam in order to become certified.
- Graduation is not contingent upon passing the exam.
School Statistics (10 year history)

- Graduation Rate: 94%
- Attrition Rate: 6%
- Board Exam Pass Rate: 98%
- Job Placement Rate: 100%
Current Job Outlook

- Nationwide shortage
- Bureau of Labor Statistics of the U.S. Department of Labor projects an increase in clinical laboratory personnel by 13% between 2010-2020
- National average salaries of *$42,000 – $48,000 per year for entry level medical laboratory scientist
- Estimated Annual Mean Wage of $49,280 in 2012

* Depends on geographic location and shift
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Career Opportunities

- Hospital Laboratories
- Clinics/Physician Office Laboratories
- Management
- Education
- Research
- Technical Sales Representative
- Information Technology
- Public Health Laboratories
- Veterinary Laboratory
In Conclusion...

- Perfect Blend of Science, Medicine, and Technology
- Challenging, Interesting, Continuously Changing
- Excellent Career Outlook
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For more information, contact:

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- Visit our website at www.saintfrancis.com
References

- U.S. Bureau of Labor Statistics
  - Occupational Employment and Wages - May 2010

- U. S. Bureau of Lab Statistics
  - Occupational Outlook Handbook -2010 - 11 Ed.

- American Society for Clinical Pathology

- American Society for Clinical Laboratory Science