

Goodwin College

Histologic Science Program

ESSENTIAL FUNCTIONS: PHYSICAL AND COGNITIVE PERFORMANCE FACTORS

JOB DESCRIPTION:

The Histotechnician is responsible for the preparation of sectioning of tissue for light microscopic examination by a pathologist. Routine duties include the fixation, processing, embedding, sectioning, and staining of human tissue obtained from surgery or autopsy. The Histotechnician also participates in the use of bone decalcification techniques, preparation of cell blocks from body fluids; use of special staining techniques for specific disease diagnosis; preparation of chemical solutions used daily; immunohistochemical and electron microscopic techniques. Because the diagnosis of life-threatening diseases depends upon the results obtained by the technician, Histotechnicians must be precise, dependable, and responsible.

PREPARATION:

Over 1 year to 2 years
American Society of Clinical Pathology (ASCP) certification or eligible

GENERAL EDUCATIONAL DEVELOPMENT:

(Educational abilities required to perform the job)

Reasoning	(Grades 13-14)
Mathematics	(Grades 9-12)
Language	(Grades 13-14)

APTITUDE LEVELS BASED ON STANDARDS SCORES:

LEVELS:

- I. The top 10% of the population. This segment of the population possesses an extremely high degree of aptitude.
- II. The highest third exclusive of top 10% of the population. This segment of the population possesses an above average or high degree of aptitude.
- III. The middle third of the population. This segment of the population possesses a medium degree of the aptitude ranging from slightly below to slightly above average.
- IV. The lowest third of the population exclusive of the bottom 10% of the population. This segment of the population possesses a below average or low degree of aptitude.
- V. The lowest 10% of the population. This segment of the population possesses a low degree of aptitude.

COGNITIVE – Level II - *Above Average aptitude*

PERCEPTUAL – Level II - *Above Average aptitude*

WORK SITUATIONS:

ATTAINING PRECISE SET LIMITS, TOLERANCES, & STANDARDS: Level II – *Above Average Aptitude*

Work situations that involve adhering to and achieving exact levels of performance, using precision measuring instruments, tools, and machines to attain precise dimensions. Complying with precise instruments and specifications for materials, methods, procedures, and technique to attain specified standards.

REASONING DEVELOPMENT: Level II - *Above Average aptitude*

Apply principles of logical or scientific thinking to define problems, collect data, establish facts, and draw valid conclusions. Interpret an extensive variety of technical instructions in mathematical, oral, diagrammatic, or written form. Deal with several abstract and concrete variables.

MATHEMATICAL DEVELOPMENT: Level II – *Above Average Aptitude*

ALGEBRA:

Real number systems; linear, quadratic, rational, exponential, logarithmic, angle and circular functions, and inverse functions; related algebraic solution of equations and inequalities; limits and continuity and probability and statistical inference.

GEOMETRY:

Deductive axiomatic geometry, plane and solid, and rectangular coordinates.

LAB MATH:

Practical application of fractions, percentages, ratio and proportion, measurement logarithms, practical algebra, geometric construction, and essentials of trigonometry.

LANGUAGE DEVELOPMENT: Level II – *Above Average Aptitude*

READING:

Read newsletter, textbooks, scientific and technical journals, abstracts financial reports, and legal documents.

WRITING:

Write editorials, journals, speeches, manuals, evaluations, and directions.

CLERICAL:

Perceive details in verbal or tabular material. Ability to observe differences in copy, to proofread words and numbers, and to avoid perceptual errors and perform arithmetic operations quickly and accurately.

SPEAKING:

Conversant in the theory, principles and methods of effective and persuasive speaking, voice and diction, phonetics, and discussion and debate. Ability to understand meanings of words and to use them effectively; to comprehend language, understands relationships between words and to understand meanings of whole sentences and paragraphs.

PROBLEM SOLVING:

Work situations that involve solving problems, making evaluations, or reaching conclusions based on subjective or objective criteria, such as the five senses, knowledge, past experience, or quantifiable or factual data.

Modify technique and/or equipment to meet the patient's tissue specimen needs.
Time management and prioritization skills.

DEGREES OR CERTIFICATES REQUIRED:

Histotechnician
Histotechnologist

(HT) or eligible
(HTL) or eligible

The following scale indicates the frequency rate for each variable:

Never
Occasionally (0-2.5 Hrs/Day)
Frequently (2.5 – 5.5 Hrs/Day)
Constantly (5.5+ Hrs/Day)

PSYCHOMOTOR: Level I– *Extremely High Aptitude*

PHYSICAL DEMANDS OF THE JOB: FREQUENCY COMMENTS

1.	Strength		Light Work	20 Lbs. Occasionally, 10 Lbs. Frequently, or negligible amount constantly
2.	Mobile	Standing Walking Sitting	Frequently	Mobile throughout the day moving to various work benches
3.	Climbing	Stairs Ladders Scaffolds	Occasionally	Climbing steps (short ladder) ex. Filing/pulling blocks and/or slides in tight places
4.	Balancing	Moving Surfaces Narrow Surfaces Slippery Surfaces	Never Frequently	 Floors are slippery due to the use of paraffin.
5.	Stooping		Occasionally	Filing/retrieving blocks and slides
6.	Kneeling		Occasionally	Filing/retrieving blocks and slides
7.	Crouching		Occasionally	Filing/retrieving blocks and slides
8.	Crawling		Never	
9.	Reaching	Above shoulder Chest to shoulder Below knees Waist to knee Waist to chest	Frequently	
10.	Handling	Wrist twisting Simple grasping Power grasping Pushing and pulling	Frequently	Extremely high aptitude needed to move hands easily and skillfully. The ability to work with hands in repetitive pacing and turning motions.
11.	Fingering	Fine Manipulation	Frequently	Extremely high aptitude needed to move fingers and manipulate small objects with fingers rapidly and accurately.
12.	Feeling		Occasionally	
13.	Talking		Occasionally	
14.	Hearing		Frequently	Timers (Machines abnormalities, directions, etc.)
15.	Tasting/S melling		Never	
16.	Near Acuity-20 inches or less		Frequently	
17.	Far Acuity- 20+ feet		Never	
18.	Depth Perceptio n		Frequently	
19.	Vision Accommo dation (Adjust lens of eye)		Frequently	

20.	Color Vision		Frequently	Above average Aptitude needed to match or discriminate between colors inters of hue, saturation, and brilliance, identify a particular color or color combination from memory and be able to perceive harmonious or contrasting color combinations.
21.	Peripheral		Occasionally	
22.	Twisting	Upper Trunk Lower Trunk	Occasionally	

ENVIRONMENTAL CONDITIONS: FREQUENCY COMMENTS

1.	<u>Exposure to Weather</u>		Never	
2.	<u>Extreme Cold</u>		Never	
3.	<u>Extreme Heat</u>		Never	
4.	<u>Wet and/or Humid</u>		Never	
5.	<u>Noise</u>		Occasionally	Fume hoods, knife sharpener, tissue processors, timers
6.	<u>Vibrations</u>		Never	
7.	<u>Atmospheric Conditions</u> <u>Fumes</u> <u>Poor Ventilation</u> <u>Mists</u> <u>Dust</u> <u>Odors</u> <u>Gases</u>		Occasionally	
8.	<u>Moving Mechanical Parts</u>		Occasionally	Microtome, Knife Sharpener
9.	<u>Electrical Shock</u>		Never	
10.	<u>High, Exposed Places</u>		Never	
11.	<u>Radiation</u>		Occasionally	Uranyl Nitrate
12.	<u>Explosives</u>		Occasionally	Picric Acids, Silver Nitrate, etc.
13.	<u>Toxic/Caustic Chemicals</u>		Frequently	Formaldehyde, Acids Schiff reagent, etc.
14.	<u>Other Hazards</u>		Occasionally	

OTHER REQUIREMENTS: FREQUENCY COMMENTS

1.	<u>Motor Vehicles Driven</u>		Never	
2.	<u>Protective Clothing</u>		Constantly	Universal Precautions lab coat, disposable gloves, eye protection, closed toed, rubbers soled shoes, socks or stockings

METHODS, TECHNIQUES, OR PROCESSES INVOLVED;

Microtomy, Embedding, Staining, Processing of Tissue, Coverslipping, Microscope Work

MACHINERY OR WORK EQUIPMENT USED;

Microtome, Knife Sharpener, Microscope, Tissue Processors, pH Meter, Analytical Balance, Embedding Center, Hot Plate, Pipets, Glassware, Timers, Hydrometers, Thermometers, Cryostat, Computers, Cryostat, computers, Decalcifiers, Hoods, Automated Equipment (Stainers, Coverslippers, etc.)

GOODS PRODUCED, SERVICES RENDERED, OR MATERIALS USED:

Paraffin Blocks, Microscopic Tissue Slides, Paraffin, Biological Dyes, Oxidizers, Mordants, Acids, Fixatives, Alcohol, Clearing Agents, Chemicals, Bunsen burners, Sharp Instruments, ie. Microtome knife.

I have read and understand the requirements of a Histotechnician

Applicant's Signature

Date

Essential Functions Revised 5/09 by Zoe Ann Durkin

Adapted from the Connecticut Department of Labor