

LIS Curriculum in Clinical Laboratory Sciences

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Stony Brook University and Health Sciences Center

- Located 60 miles east of NYC
- Health Sciences Center
 - Schools of Health Technology and Mgt, Nursing, Medicine, Dentistry, and Social Welfare
- Just over 23,000 students
- Most popular Majors on West Campus
 - Biology, Business Management, and Computer Science



Stony Brook University

BS in Clinical Laboratory Sciences

- School of Health Technology and Management
- CLS Program-started thirty five years ago
- 2 + 2 integrated program
- SHTM has M.S. graduate degree program in Health Care Management with concentration in CLS Sales and Marketing
- National Accreditation - NAACLS

LIS course added to CLS in 1995

- Rationale-

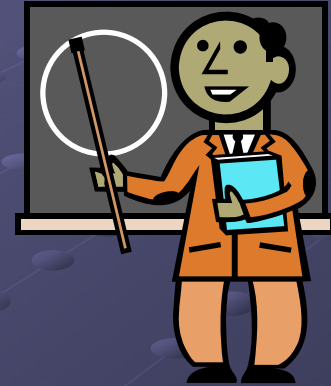


*Anticipation of NAACLS Accreditation
requirement*

*Prepare students for laboratory workflow where
the LIS is such a large part of the student
clinical rotation*

LIS Course Organization

- Lecture – number of hours?



- Computer lab exercises – number of exercises?



Course Lecture Content - **Part One**

- Introduction to healthcare informatics
 - terminology/ buzz words, various disciplines
- Computer anatomy
- Networking, architecture
- EMR
- HIPAA (IT) security
- Standards in healthcare informatics
- Database design
- LIS/IT Life Cycle

Course Lecture Content - **Part Two**

- LIS functionality
- LIS terminology
- LIS workflow
 - pre-analytic, analytic, and post analytic processes
- LIS Management
 - Data
 - System backup
 - Security
 - Building/editing databases
 - Troubleshooting, networking, validation, etc

Computer Lab Activities

- Library databases and MS Office applications exercises
- LIS - Demo and hands-on exercises
 - Functionality
 - Building/testing of LIS databases
 - LIS workflow/troubleshooting



1999 – Added LIS Certificate Track

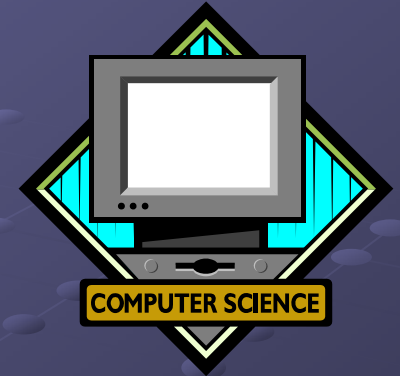
One of three elective tracks offered by CLS Program
Reason- recruitment and retention

LIS Track Objectives

To gain valuable insight in the day-to-day LIS management operations and demonstrate skills necessary to be an effective LIS manager

LIS TRACK COURSES

- CSE 113 or equivalent
 - math/logic, computer weed-out class
- CLS LIS Course (program requirement)
- LIS Internship 5-6 Weeks, at a clinical site
 - Includes all LIS management responsibilities
 - LIS security
 - System backup/archiving
 - Management reporting
 - Interfaces, databases
 - Hardware and software troubleshooting, maintenance, etc.
 - May be divided between hospital laboratory and reference/commercial laboratory



Career Opportunities for Track Graduates

Job Titles-

LIS assistants, LIS managers, IT trainers, installers, system analysts, medical information/ librarians, sales, and CIO's

Places of employment-

LIS vendors, blood bank system vendors, hospital IT/network and medical informatics departments, medical library services

American Society for Clinical Pathology (ASCP)

- Not-for-profit medical specialty society for almost 85 years (1922)
- Mission: To provide excellence in education, certification and advocacy
- Broadly represents the clinical laboratory community
 - 11,000 Pathologists
 - 129,000 Laboratory Professionals
- Leading society for clinical laboratory
 - Continuing education
 - Personnel Certification



ASCP Certifications and Qualifications

- MT, MLT and over 20 specialty certifications
- International Certifications
- Diplomat Certifications
- ASCP Qualifications



Qualification in Cytometry, QCYM

Qualification in Immunohistochemistry, QIHC

Qualification in Laboratory Compliance, QLC

Qualification in Laboratory Informatics, QLI

Point of Care Testing Evaluator Program, QPOCTE

Lab Informatics QLI

Committee Members



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ASCP QLI History



- Ad Hoc Committee formed in 2000 to consider the need for a credential for LIS personnel
 - “In LIS, is there a measurable body of knowledge”
- ASCP members working in LIS were surveyed
- The QLI Committee selected the type of credential
 - Certification or Qualification?
- Determined the method to assess the applicant's competence
 - Project format was selected
- Proposed offering the QLI credential to the ASCP Board of Governors
- Qualification first offered in Spring, 2003

Needs Assessment Survey of LIS personnel



- Results supported the development of an LI credential
- Information on LIS management job tasks was also obtained

LIS Survey Results

Question	% Yes	% No	% NR
Do your LIS employees have other IT certifications?	10.2	87.8	2.0
Should ASCP BOR offer certification in LIS?	79.8	16.9	3.3
If available, would you require your staff to become certified in LIS?	34.0	64.6	1.4
Would certification in LIS be beneficial to your laboratory?	51.7	46.9	1.4

LIS Survey Results

Question	% Yes	% No	% NR
Would a certification in LIS be beneficial to your employees?	62.6	36.0	1.4
Would an applicant with certification in LIS be given higher priority when hiring?	61.9	36.7	1.4
Would your institution subsidize or reimburse the cost of the examination for your current employees	32.6	66.0	1.4
Would you apply for a certification in LIS? (For LIS managers only)	79.1	17.3	3.6

ASCP QLI Survey

LIS Manager's Job Responsibilities Indicated

TASK	PERCENTAGE YES
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Billing	62
Change Management	65
Client Relations	26
Database Administration	79
Disaster Recovery	58
Hardware Installation	59
Hardware Maintenance	63
Interfaces: S2S	87

ASCP QLI Survey

LIS Manager's Job Responsibilities Indicated

TASK

PERCENTAGE YES

Network	36
Policy Development	73
Programming	35
Quality Control	52
Security	77
Software Validation	88
System Management	82
Training	87
System Troubleshooting	94

QLI Eligibility Routes – Established 3

1. MT(ASCP) and minimum 1 year LIS experience (full-time)
2. MLT(ASCP) and minimum 3yrs lab experience and 1 year LIS experience (full-time)
3. B.S. degree and (specified # of science credits) 3yrs lab experience and 1 year LIS experience

LIS Experience – within last 4 years

Must document experience in at least 8 of the following

- Hardware/software change management & QC
- Database administration
- Policy and procedure development
- System Analysis
- Computer system and data quality QA
- Disaster recovery
- Interfaces: system to system
- Interfaces: system to instrument
- Security: physical data and administrative control
- Software installation, validation & maintenance



LIS Experience – Within last 4 years

Must document experience in at least 6 of the following

- Billing and charge capture
- Regulatory compliance
- Budgeting/cost benefit analysis
- Client relations
- Coding and nomenclature systems
- Hardware installation and maintenance
- Network and data communication
- Programming
- System selection and procurement
- Training/Teaching
- Web site developing and maintenance



QLI Project Format

Part 1: The applicant must

- Provide an overview of the LI architecture and components of the LI system.
- Describe in detail the direction of data transfer and what is being transferred.

Part 2

- Six cases are provided for applicants to troubleshoot.
- When grading, consideration is given to the LI environment detailed in Part 1 of the project

Evaluation Process

Examiners review-

Grading criteria:

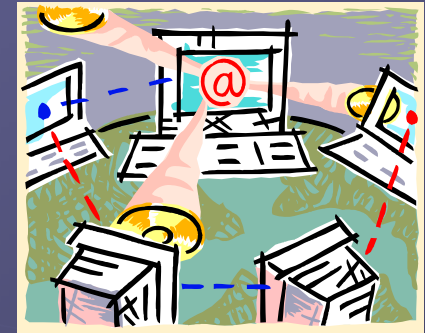
- Accuracy
- Completeness
- Quality of Presentation
- Logic/Problem Solving
- Quality of conclusion/interpretation



Benefits of Credentialing

- Self-gratification
 - -sense of self achievement and accomplishment
- Professional recognition
 - From ASCP for management and IT department and among peers
- Validation by ASCP
 - Individuals with the QLI credential have unique skills to perform LIS job responsibilities
- Job promotion or career change opportunities
 - Job application or promotion advantage over someone who does not have these credentials
- Vendor personnel
 - To provide a qualified resource to their clients to their clients

Now and in the Future



- Clinical laboratory training programs must add informatics training to their curriculum
 - Pathology residents
 - CLS/CLT
- Clinical lab informatics training materials need to be developed
 - Text books
 - Computerized training programs
 - LIS software to simulate the LIS environment