

**STATE UNIVERSITY OF NEW YORK
HEALTH SCIENCE CENTER AT BROOKLYN
COLLEGE OF HEALTH RELATED PROFESSIONS
MEDICAL INFORMATICS PROGRAM**

PROGRAM INFORMATION AND POLICIES

2015- 2016

TABLE OF CONTENTS

I.	Welcome to the Medical Informatics Program.....	3
II.	General Information.....	4
III.	Mission.....	5
IV.	Faculty.....	7
V.	Student Support Services.....	8
VI.	Academic Policies.....	10

Appendices

A.	Academic Calendar.....	13
B.	Program of Study.....	14
	Course Descriptions.....	16

I. WELCOME TO THE MEDICAL INFORMATICS PROGRAM

Welcome to the SUNY Downstate Medical Center Medical Informatics Program. The Medical Informatics Program admitted its first class in September 2003. The faculty is dedicated to educating the finest health care professionals. Our efforts are directed toward providing a caring and supportive learning environment, while ensuring that each student possesses entry-level competency appropriate for the professional Medical Informatics practice upon graduation from the Program. We believe that an effective system of communication is an essential component of student success. This handbook has been developed to provide general program information as well as to familiarize you with the professional principles, policies and procedures that govern our Program within the College of Health Related Professions. You are expected to become familiar with, and abide by the policies and procedures described in this text, as well as the academic regulations and professional requirements published in SUNY Downstate Medical Center Student Handbook.

We welcome your questions and suggestions. We also look forward to developing a rewarding partnership with you and facilitating your academic and professional development. If you have any questions after reviewing the Medical Informatics Handbook, you can contact your faculty advisor or course instructor.

Message from the Student Medical Informatics Association (SMIA) class President:

Dear Medical Informatics Students,

I want to welcome all new and returning students back from vacation. To our new colleagues, I would like to congratulate, for considering Medical Informatics as a foundation for your future career goals. You will be met with challenging yet rewarding experiences and professors that will offer both motivation and support over the courses of these next two years.

As the President of Student Medical Informatics Association I would also like to inform you that we have events lined up for the fall semester that will be both informative and social in nature. SMIA is here to offer resources for both new and current MI students to help guide your career, decision-making, and academic pursuits. Please do not hesitate to ask any of us for advice, tips, and suggestions on how to make your MI studies a great success!

SMIA will be seeing you soon at our first "Meet and Greet", to happen in the first week of classes where food and drinks will be provided, but even more so, the opportunity to discuss certain aspects of Medical Informatics and the program itself, that will very beneficial to you.

Sincerely,

*Sebastian Stanescu M.D.
President of SMIA*

Your Current SMIA Student Organization Officers:

President: Jimmy Wu

Vice President: Magdalena Rzeszotko

Secretary: Deborah Cassanova

Treasurer: Tasia McLeod

II. GENERAL INFORMATION

Program Location

The Medical Informatics Program is located in the Health Science Education Building (HSEB), 7th floor, room E777. The Medical Informatics computer laboratory is also located in the HSEB on the 8th floor, room E834.

Program Telephone Number: 718-270-7770

Program Website: <http://www.downstate.edu/CHRP/informatics/index.html>

PRIME Online Course Management

PRIME is SUNY Downstate course management software used for posting course material. Students will receive instructions in logging on and using PRIME during Orientation.

Medical Informatics Program Directory

Name	Room #	Phone	Email
Isaac Topor, <i>EdD, RHIA</i> (Chair)	E778 (7-058)	718-270-7782	isaac.topor@downstate.edu
Yalini Senathirajah, <i>PhD, AB</i> (Assistant Professor)	E771 (7-048)	718-270-7762	yalini.senathirajah@downstate.edu
Mohammad Faysel, <i>PhD</i> (Assistant Professor)	E784 (7-055)	718-270-7693	mohammad.faysel@downstate.edu
Shaneka John- Brooks (Program Administrator)	E777 (7-056)	718-270-7770	shaneka.john-brooks@downstate.edu

III. MISSION

State University of New York (SUNY) and Downstate Medical Center

The mission of the State University of New York is proudly expressed in its motto: “To Learn – To Search – To Serve.” The mission of the state university system is to provide the people of New York educational services of the highest quality, with the broadest possible access, fully representative of all segments of the population in a complete range of academic, professional and vocational post secondary programs. The educational activities offered through a geographically distributed system of diverse campuses, which have differentiated missions, are designed to provide comprehensive programs of higher education, to meet the needs of both traditional and non-traditional students and to address local, regional, and state needs and goals. The State University of New York Downstate Medical Center at Brooklyn is an academic health center committed to teaching, biomedical research and the delivery of health services, especially to urban communities.

College of Health Related Professions

The mission of the College of Health Related Professions is to educate health care professionals in the delivery of excellent health care service by developing their scientific competence and fostering their humane spirit. The College seeks to accomplish this by providing a challenging and supportive atmosphere for learning that offers opportunities for structured experiences as well as independent inquiry. The faculty contributes to knowledge in allied health through advancements in clinical practice, scholarly activities, basic and applied research. Collaboration is emphasized among students, faculty, clinicians and professionals in health care and related disciplines. Students are prepared for professional leadership roles through course work, professional and campus activities. The College fosters ongoing professional growth by sponsoring continuing education opportunities in all disciplines. The College strives to serve the urban community in which it is located by providing health services and education to the population.

Medical Informatics Program

In keeping with the mission of the College of Health Related Professions, the Medical Informatics Program at Downstate Medical Center is designed to provide comprehensive theoretical and technical skills in the practice of medical informatics. To foster the development of the attitudes, values and behavior appropriate for professional health care providers, and to prepare students to participate in the team approach to patient care. The curriculum integrates computer science, medical informatics, health science, and research to provide a comprehensive introduction to the practice of medical informatics. The five semester didactic phase consists of lectures, computer laboratory, practical and simulation experiences designed to provide medical informatics students with the knowledge necessary to work in the field of medical informatics. The curriculum, which consists of five semesters, is designed to fulfill the program and the institutions mission the objectives, learning experiences, and evaluation methods of each academic and clinical course provide the opportunity for the students to gain the knowledge, attitudes and skills necessary to attain the curriculum goals. Learning is sequenced to be progressive and influenced by previously attained knowledge and skills.

Program Educational Philosophy

The mission of the Medical informatics Program is to provide a high quality education to students studying in the field of medical informatics who will be prepared to be employed in an urban environment. This will be accomplished by:

1. Providing students with the knowledge, theories, and skill required in the field of Medical Informatics
2. Providing students with a challenging and supportive learning environment
3. Providing students opportunities to collaborate with faculty from College of Medicine, College of Nursing, and the College of Health Related Professions
4. Providing extensive clinical experience, which will prepare the students to practice in different health care facilities and in urban communities
5. Creating a sense of professionalism

IV. FACULTY

Isaac Topor, Ed. D., RHIA, joined the college of Health Related Professions as Chair of the Health Information Management Program in 1980. Dr Topor received his B. S. in Medical Record Administration and M.S. in Environmental Health Science from Hunter College. Dr. Topor also received A Masters in Public Administration (MPA) from New York University. A Doctorate in Education (Ed. D.) was completed at Teachers College, Columbia University. Dr. Topor has more than 30 years of experience in health information systems and management. Dr. Topor has been active in the local, state, and national health information association. He received the distinguished member award from the Health Information Management Association of New York City of which he is a member and past president.

Dr. Topor's research and scholarly activities focus on the electronic medical record, Coding and nomenclature (ICD-9-CM and CPT), health administration. Current research focuses on evolution of the electronic medical record and its effect on clinical care, research and professional role ambiguity. Previous publication focused on Hypertext as a teaching tool and confidentiality and security issues regarding health information systems.

Yalini Senathirajah, PhD is Assistant Professor at SUNY Downstate Medical Center, with research interests in user-configurable web 2.0 approaches to the electronic health record. During her National Library of Medicine/Robert Wood Johnson sponsored specialized public health informatics pre-doctoral fellowship, she developed a novel user-controlled evolving ecosystem approach to electronic health records, using modern ('web 2.0') participatory approaches and technologies.

She has wide expertise in web technologies and healthcare, including five years as webmaster of the Columbia Health Sciences campus, creating applications for research, teaching and patient care for over 200 departments. She has conducted research with underserved populations, including in Harlem, where she assisted in the creation of a community health portal (*getHealthyHarlem*), decision support tools for cancers and rapid HIV testing prescreening, and research into Harlem residents' technology and healthcare attitudes, access, health behavior change and related concerns.

She holds a PhD in Biomedical Informatics from Columbia University, AB in Biology from Harvard University, and attended Ontario Veterinary College. Her work experience includes overseas work in Malaysia and Sri Lanka.

Mohammad Faysel, PhD is an Assistant Professor in the Medical Informatics department at SUNY Downstate Medical Center. Prior to joining Downstate, Dr. Faysel held a fulltime faculty position as Assistant Professor of Health Informatics and Program Coordinator where he developed a health informatics program and taught various health informatics courses. He was also a Predoctoral Fellow and Co-instructor of various graduate level biomedical informatics courses at University of Medicine and Dentistry of New Jersey (UMDNJ) while he was completing his doctoral studies. He was involved in several grant funded informatics research projects at UMDNJ.

Dr. Faysel's research interests include cyber security for healthcare information systems, bio surveillance in public health, Mobile Health (mHealth) applications in improving healthcare delivery, reducing health disparity using mHealth, and healthcare outcome measurement using electronic health record.

Dr. Faysel holds a PhD in Biomedical Informatics from University of Medicine and Dentistry of New Jersey, both BS and MA in Computer Science from Queens College of the CUNY.

Adjunct Faculty

Adjunct faculty participates in the teaching in the Medical Informatics curriculum. The faculty is from the College of Medicine, Academic Computing, Scientific Computing, and Medical Library and from external community. They are all experts in computer science, medical informatics, and health care.

V. STUDENT SUPPORT SERVICES

Services for Students with Disabilities

Students with disabilities who wish to request accommodation from their academic program are required to complete the appropriate disability information form prior to matriculation. The Office of Student Affairs coordinates arrangements for students with disabilities. Students who wish to request accommodations after they are matriculated into the college are required to complete the appropriate form from the office of student affairs. Students should also refer to the Student Handbook for description of the procedures for requesting accommodations. The Office of Student Affairs is located in the Basic Science Building, room 01-114, telephone number **718-270-2187**.

Academic Support Services

Students who experience academic difficulties can contact *Ms. Lotus Jones*, office of Academic Development at **718-270-7536**.

Student Counseling Service

Confidential counseling services are available by contacting *Dr. Christine Saunders-Fields* Director of Student Counseling at **718-270-1408**. A full description of student counseling services is available in the SUNY Downstate Medical Center Student Handbook.

Student Health Services

A full description of the student health services can be found in the SUNY Downstate Student Handbook and on the SUNY Downstate student counseling webpage at http://sls.downstate.edu/student_health/

Financial Aid Information

Current information about financial aid and scholarship are made available to students by the Financial Aid Office located in room 01-114 of the Basic Science Building.

Registration for Continuing Students

Information about registration for continuing students will be forwarded to the students by the registrar using email and Banner. During the pre-registration period, students will meet with their assigned faculty advisor for selection of courses. Subsequently, students will register online using the Banner portal.

E-mail

Students are given an individual email account by the college at the time of orientation. Faculty notices to students are often sent via e-mail. Students are also encouraged to contact faculty and staff through e-mail or by phone. Students are expected to check their Downstate e-mail on a daily basis.

Faculty Advisor

Each student is assigned a faculty advisor. The faculty advisor should be consulted prior to course selection and registration. Each student should make an appointment to meet his/her advisor at least once each semester.

Student Medical Informatics Association (SMIA)

The Student Medical Informatics Association is an organization formed and run by students in the program. The Association has in the past invited speakers, worked with the local Informatics associations, made presentations at national conferences, and organized social events.

Health Insurance

SUNY Downstate Medical Center requires health insurance for all matriculated students. Information on health related services and health insurance is published in the Student Handbook.

Weather Emergencies/ Natural or Man Made Disasters

If SUNY Downstate were to be closed due to a weather emergency or other emergencies, you would hear the notification on your local radio or you can call 718-270-1000. You should also check the SUNY Downstate website for information. You may also call the Medical Informatics office (718-270-7770) for up-to-date information on class cancellation due to weather emergency, natural or man-made disasters.

VI. ACADEMIC POLICIES SPECIFIC TO THE MEDICAL INFORMATICS PROGRAM

Grading Scale: Letter grades are based on actual numeric values and assigned by the course instructor upon completion of each course. The grading policy of the Medical Informatics program is as follows:

<u>Alphabetical Grade</u>	<u>Grade Point Value</u>	<u>Score</u>
A	4.00	94 and above
A-	3.67	90-93
B+	3.33	87-89
B	3.00	83-86
B-	2.67	80-82
F	0.00	< 80

The grade of pass (P), withdraw (W), Incomplete (I), course in progress (IP), R and E carry no numerical value and are not calculated in the grade point average. The grade withdraw fail (WF) carries a numerical value of zero. Students are encouraged to obtain from the instructor, the grading criteria for each course.

Academic Regulations

- a) A minimum cumulative grade point average of 3.0 is required and must be maintained to be in good academic standing.
- b) If a student fails a course (grade below B-), the student must repeat the course the next time that course is offered. If a student fails the same course a second time, the faculty will present the student to the Admission and Academic Standing Committee for dismissal from the program.
- c) Due to the sequential structure, pre- and co-requisite requirements, the didactic courses are taught once during the academic year. Course repetition can only occur annually.
- d) A student is placed on academic probation at the end of any semester in which his/her grade point average, cumulative or for that semester, is below 3.0.
- e) Students are not permitted to continue in the program if they fail more than one course in the curriculum. If a student fails more than one course, the Medical Informatics faculty will recommend to the Admission and Academic Standing Committee that the student be dismissed from the program.
- f) Opportunities are provided to ensure that student rights are protected and that students are afforded due process. The procedure for grade appeal is described below. The procedures for appeal of academic standing decisions are outlined in the University Student Handbook and Bulletin.

Attendance & Punctuality

- Attendance at classroom lectures, laboratories, and clinical internship is mandatory.
 - Punctuality is required in all classroom/clinical internship and laboratory activities.
 - If you are ill and cannot attend a class, it is the students' responsibility to call the course instructor, before the scheduled class.
 - If you are unable to attend the clinical internship, it is the students' responsibility to call the clinical coordinator and the clinical preceptor, before the scheduled session.
- Active participation is encouraged in all classes.
- Disruptive behavior during class is not acceptable. See Classroom Discipline section in Appendix III of the Student Handbook for further information
- Cell phones/pagers must be silenced while in the classroom
- Classroom behavior should adhere to AHIMA's Code of Ethics (see Appendix C)
- If more than 20% unexcused absences are recorded in lecture classes or clinical internship the students will be deemed to have failed the course.
- If more than 25% of excused absences are recorded in lecture classes or clinical internship it may result in failure of the course at the discretion of the instructor.
- Absences may only be excused through notification and approval of the Program Director or course instructor.

Examinations

Students are required to take all scheduled examinations. Unapproved lateness for more than 20 minutes to a scheduled examination will result in a reduction of one letter grade. In extenuating circumstances (family crisis, or medical emergency), the student must call the program Chair and the course instructor, before the scheduled examination begins, to notify them of the reason for absence. With valid reasons, alternate examinations may be administered but documentation of the cause of absence, such as funeral notice, medical note etc. must be presented to the course instructor. Failure to notify the program Chair and the course instructor about an absence from a scheduled examination will result in a zero score for that examination.

Please consult the Student Handbook, page 53, for additional information on guidelines for students during classroom examinations.

Clinical Internship

The Clinical Coordinator will assign each student to the optimal site available during the final Spring semester. It is the responsibility of the student to arrange transportation to his or her assigned clinical site. Requests for assignment to specific clinical sites are accepted in the Fall semester prior to the clinical internship. Requests must be submitted in writing at least two months prior to the start of that semester. Assignment to a requested site is not assured; however, all requests will be carefully considered and granted if they meet the needs of the student and the Medical Informatics program.

Students evaluate healthcare information and their integration in the clinical facility. Students will review the types, use, integration, and clinical value of healthcare information systems in assigned clinical facilities. As a team, students assigned to a clinical site will devise evaluation criteria and tools, interview stakeholders, evaluate system interfaces, and analyze the integration of the systems in the overall patient care effort of the clinical facility.

Students are required to submit deliverables (i.e. attendance sheets, preceptor evaluations, evaluations of the clinical site for the three components during the Medical Informatics Clinical Internship) to the coordinator at the end of the Internship assignment.

Grading Criteria: **PASS/FAIL**

Awards offered by the Medical Informatics Program at College Convocation

Academic Excellence
Outstanding Leadership
Clinical Excellence
Excellence in Research

Graduation

When you have completed all your requirements, you are eligible for the degree of Masters of Science. Degrees are awarded from the Office of Registrar on May 31st, August 31st, and December 31.

Appendix 'A'

CHRP ACADEMIC CALENDAR 2014-2015

<http://sls.downstate.edu/registrar/chrp/calendar/2015-2016.html>

Appendix 'B'

PROGRAM OF STUDY

Medical Informatics Program is a 39-credit program designed for full-time or part-time study. The curriculum is designed to meet the needs of students with a wide range of backgrounds. The courses are sequenced to encompass an overview of the discipline of medical informatics and to develop competencies and skills required by the discipline.

The courses include, database systems, network architecture, medical imaging systems, internet integration, medical decision support systems, and clinical internship. Students will also be required to conduct an independent research study or clinical system evaluation of a Medical Informatics system.

MEDICAL INFORMATICS

Master of Science

Program of Study

Curriculum

First Year

Fall Semester		Credit
MIMS 5001	Computer Science for Medical Informatics*	3
	OR	
ADMN 5400	Health Care Delivery in the US** AND	1.5
MIMS 5103	Health Care Delivery Professional Seminar **	1.5
MIMS 5100	Introduction to Medical Informatics	3
MIMS 5101	Database System Applications in Biomedicine	3
	<u>Total Credits</u>	<u>9</u>

Spring Semester

MIMS 5002	Internet integration in Healthcare*	3
	OR	
MIMS 5102	Health Care across the Lifespan**	3
MIMS 5110	Healthcare Computer Network Architecture	4
MIMS 5111	Research Methods	3
	<u>Total Credits</u>	<u>10</u>

Summer Semester

MIMS 5201	Topics in Medical Informatics	2
MIMS 5202	User Interface in Medical Informatics	3
	<u>Total Credits</u>	<u>5</u>

Second Year

Fall Semester

MIMS 5112	Medical Decisions Support Systems	3
MIMS 5203	Information Retrieval & Digital Libraries	3
MIMS 5204	Medical Imaging Systems	3
MIMS 5206	Independent Study (Elective)	1-3
**MIMS 5208	Clinical Internship in Medical Informatics I	1.5
**MIMS 5209	Clinical Internship in Medical Informatics II	1.5
	<u>Total Credits</u>	<u>9-15</u>

Spring Semester

MIMS 5121	Master's Essay in Medical Informatics	3
MIMS 5205	Evaluation of Healthcare Information Systems (<i>ELECTIVE</i>)	3
**MIMS 5208	Clinical Internship in Medical Informatics I	1.5
**MIMS 5209	Clinical Internship in Medical Informatics II	1.5
	<u>Total Credits</u>	<u>6-9</u>

Total Credits required for graduation: 39

* To supplement computer background.
 ** To supplement health care background

Course Descriptions

Course Title	Course Description
Computer Science for Medical Informatics	An overview of computer science as a science of abstraction. The course will introduce computer Programming as the way of thinking. Students will create models and implement abstractions using data structures and algorithms. Intended for students with limited computer background.
Introduction to Medical Informatics	An overview of the Medical Informatics field, combining perspectives from medicine, computer science and social science. The course will cover the organization of Medical information, the effective management of Information using computer technology, and the impact of such technology on medical research, education, and Patient care
Database System Applications in Biomedicine	An introduction to the fundamentals of database system. The evolution of hardware and software for storing medical data is covered. Current database structures such as hierarchical, network, relational, and object-oriented are described and compared in terms of their Applications in the health field.
Internet Integration in Healthcare	An overview of the Internet and WWW integration into healthcare. Course covers legal, social, and ethical issues as well as various techniques for creating attractive And functional web documents.
Research Methods	Basics for participating in the development, Implementation, and evaluation of research studies in Medical Informatics.
Healthcare Computer Network Architecture	An introduction to computer networks and their use in medicine. An overview of topologies of computer networks. Network security as it applies to HIPAA regulations are explored.
Medical Decision Support System	An introduction to methods of medical decision making in the face of uncertainty. The course surveys a number of techniques for qualitative reasoning, including probabilistic reasoning, decision analysis, ROC analysis, and meta-analysis, as well as comparison of different Qualitative and quantitative methods.
Topics in Medical Informatics	Analysis and discussion of various topics in the medical informatics literature under the direction of a faculty advisor

User Interface in Medicine	An overview of theoretical, development, design and Assessment models and techniques in the field of intelligent user interfaces under an interdisciplinary Approach (computer Science, psychology, cognitive science and artificial intelligence).
Information Retrieval and Digital Libraries	An overview of information retrieval methods with an emphasis on library information systems.
Medical Imaging Systems	An introduction to computer graphics and medical imaging techniques. Methods of digital image processing are explored. 2-D and 3-D imaging modalities are reviewed and demonstrated through of on-site medical equipment.
Master's Essay in Medical Informatics	Students will be expected to develop a proposal for a research project in medical informatics to be carried out with the supervision of a faculty advisor, and conduct the research. A written report on the result of a research project in medical informatics must be presented.