

MEDICAL INFORMATICS

<http://www.it.rit.edu/it/undergrad/mi.maml>

PROGRAM OVERVIEW FOR EMPLOYERS

The Medical Informatics undergraduate program at RIT prepares students for a career as computing specialists in the medical field. It gives them a strong background in both science and computing and provides them with the necessary knowledge of the field of medicine. Their responsibility is to provide computing support to the medical field using the existing computer technology or to develop new technology for future medical applications. This program evolved from the Biomedical Computing program which RIT had offered for many years. There are great similarities between the two programs and the graduates of both do similar work. However, during the last decade Medical Informatics has become very popular in this country and around the world. An advisory board consisting of RIT faculty and members of the medical community helped RIT upgrade the curriculum and change Biomedical Computing to Medical Informatics. For more information about this field please visit the following web sites: www.amia.org American Medical Informatics Association (AMIA) and www.imia.org International Medical Informatics Association (IMIA).

Degree(s) Awarded

Bachelor of Science
B.S. Medical Informatics

Enrollment

Approximately 30 students enrolled

Cooperative Education Component

Two required. None required for students in the Premedical track, although it is strongly recommended.

All students become eligible upon completion of second year courses.

Salary Information (Avg/Range)

Co-op: \$15.00 \$11.00 - \$21.00
BS: \$42,000 - \$58,000

Equipment & Facilities

800 computers for student use distributed among 18 different labs. These include: several active-learning labs for course instruction in computer programming, database application development, networking, system administration, security, game and multimedia production, audio and video capture and introductory digital media.

- Computers include high-end Windows, Macintosh, and UNIX workstations and servers.
- Laptop computers and projectors used in most classes to bring live demonstrations into class.

The general purpose labs support other courses and general purpose computing.

Concentrations/Options

The program offers students the flexibility of selecting one of three tracks depending on students' interest. They are the IT, CS, and Premedical Tracks. The IT Track (Information Technology) is for students who want to use the existing computer technology for the advancement of medical practice, medical education or medical research. The CS Track (Computer Science) is for students who want to develop new technology to be used in medical practice, medical education and medical research. The Premedical Track is for students who want to become competent in the computer technology that is used in medicine, but want to continue their education after the BS degree by enrolling in a medical, veterinary, or dental school. The Medical Informatics program at RIT requires four years of study regardless of the track selected.

Student Skills & Capabilities

- Computer languages – Java, C++, M (MUMPS), Object Script, HTML, Assembler
- Operating Systems – UNIX, Solaris, VMS, Windows XP, Mac OS
- Software MySQL, CACHE, MINITAB, Microsoft Access, Excel, PowerPoint
- Most students acquire additional knowledge of languages/software (e.g. Oracle, Mathematica), through elective computing courses and/or co-op experience.

Medical Informatics

RIT's BS degree curriculum in medical informatics is one of only a few programs in the United States. The program was developed by the College of Science and the departments of computer science and information technology to respond to the increasing use of computers in every aspect of health care, as well as biomedical research and education. Students receive training in the basic sciences, medical sciences, and computer science/information technology with emphasis on clinical and laboratory applications. This array of courses provides graduates with the ability to communicate with medical personnel and trains them to develop computer applications for the solution of clinical problems, laboratory analyses, medical information systems, medical research, and education. It also trains them to provide computing support to medical professionals in the above areas.

Students can choose one of two tracks in this program: computer science (CS), for those students interested primarily in developing computer software for medicine; or information technology (IT), for those interested in providing computer support for clinical information systems, databases, networks, and Web applications.

Students are strongly encouraged to obtain experiential medical informatics education by participating in the cooperative education program (co-op). Co-op allows them to alternate quarters of academic study with quarters of paid employment, starting with the summer at the end of the second year. Co-op provides the opportunity to practice new skills in real-life situations and to test a student's chosen field before making a lifelong commitment. The experiences students acquire not only make their education more relevant, but also make them more valuable to prospective employers.

Students consult with faculty advisers in order to tailor their academic programs to individual career goals. Upper-level electives are used to prepare graduates for specialized employment opportunities within medical informatics, for graduate school in the sciences or computer science/information technology, or for postgraduate professional school.

Optional Premedical Track

Medical informatics can optionally be a premedical program. Those medical informatics students interested in later applying to medical, dental, or veterinary school follow the CS track, but replace some of the computing courses with physics and organic chemistry. For more information, contact the program director, Nicolas Thireos, at 585.475.6511, or e-mail nat@it.rit.edu.

BS/MS Option in Medical Informatics and Computer Science

The BS degree in Medical Informatics can be obtained in four years. With one additional year (four quarters) of study students can optionally earn an MS degree in computer science. Students must declare their intention to pursue the MS degree by their third year of undergraduate study. Some assistantships and scholarships for graduate study are available to deserving students.

Requirements for the BS in Medical Informatics

The student must meet the minimum requirements of the university, and, in addition, must complete the requirements contained in this program. Transfer students may be required to take additional course work, depending on the program they attended at their previous school. Specific requirements will be determined for each transfer student by the department.

Course Description for Medical Informatics:

http://www.rit.edu/~932www/ugrad_bulletin/colleges/ccis/medinfor.html

Employers of Medical Informatics Co-op and/or Graduating Students:

Agilent Technologies, Amdex Computer, Aries Systems Corp., Cisco Systems, Danka Service Int'l, Duke University, IDX Corp., Johnson & Johnson Ortho Clinical Diagnostics, Merck Co., Neo-Sci, Sandia National Labs, Tyco Healthcare, Univ. of Rochester Medical Center, Veteran's Administration Medical Center (Canandaigua, NY), Wyeth Laboratories.

Contact Us:

We appreciate your interest in hiring RIT co-op, graduating students or alumni. We will make every effort to make your recruiting endeavor a success. Call our office and ask to speak with James Bondi, the program coordinator who works with the Medical Informatics program. For your convenience, you can access information and services through our web site at <http://www.rit.edu/recruit>.

James T. Bondi, Assistant Director

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