

**PRE-HEALTH PROFESSIONS
FRESHMAN-SOPHOMORE HANDBOOK**

BY

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INTRODUCTION

The Pre-Health Professions Advising Office was created in 1966 to help students seeking entry into one of the doctoral level health professions. Over the years the services provided by the office have grown to include: curricular advising, credentialing, programming, administering special programs, and general advising about university requirements. The office is staffed by an advisor, a freshman advisor, and a secretary. The advisors are further assisted by the Pre-Health Student Advisory Committee, which holds regular meetings with the advisor, conducts programming, and publishes a monthly *Pre-Health Newsletter*. Committee members also serve as peer advisors and have regular office hours during which they perform circumscribed advising of students.

Beyond the information available in the Pre-Health Professions Office, there is a Pre-Health Listserv (PREHLTH-L) which contains postings from the Pre-Health Professions Advisor, students, and alumni. This information is typically short term, but important nonetheless (e.g. changes in office hours, student organization meetings, visiting speakers, general program information, etc.).

To sign onto the Pre-Health Listserv, you will need to send the following message to LISTSERV@LISTSERV.BINGHAMTON.EDU

SUB PREHLTH-L *firstname lastname*

Sometime later you will receive a welcome message from the listserv with basic instructions regarding usage, etc. If you have any difficulty, please send a message to Lynne Datto, Pre-Health Secretary (ldatto@binghamton.edu) and she will subscribe you manually.

In addition to the interactive topical format found on *PREHLTH-L*, there is information available on the Pre-Health web page. You can access the Pre-Health web page at <http://prehealth.binghamton.edu/>. On the web page you will find a concise version of some of the material contained in this handbook, as well as a link to a pdf version of this handbook. In addition, there will be links to some of the more important health professions web pages, student organization web pages, a current events section, and a variety of other information.

There is also an organization page on the Blackboard (Bb) system used on campus. You can easily access this when you are using Bb for your Binghamton coursework. Certain pre-health documents are permanently posted here as well as announcements from the pre-health list serv. Incoming students will be registered with this system in September based on Orientation sign in sheets. Others may be registered by contacting the Pre-Health Advisor (prhealth@binghamton.edu). When you log into Bb in September, look for the title ‘Pre-Health Advising’ in the ‘my organization’ box.

Another channel of communication is through Facebook. There is a group, Pre-Health Advising at Binghamton, which you can join through your Facebook account. This is a dynamic group which not only provides information about pre-health activities, but also allows you to connect with other pre-health students on campus.

The Pre-Health Bulletin Board, which is located at the bottom of the stairs in Academic B is another source of information. Typically, the Bulletin Board will contain a copy of the current edition of the *Pre-Health Newsletter*, a list of the names and email addresses of the members of the Student Advisory Committee, Student Advisory Committee peer advising hours, announcements of upcoming programming, and related information.

Over the next several years, pre-medical students should make sure they stay informed of the most up-to-date required pre-medical coursework for MCATs and medical school admissions. Changes in these two areas will be announced at the end of 2011. The Pre-Health Professions Advisor will announce these changes through the pre-health listserv, Bb, and the pre-health website as soon as they become public.

This handbook addresses the needs of freshman and sophomore students in the areas of curricular information, planning, access to office resources, and related matters. **You should read it carefully and review it frequently to insure that you understand its contents.** You should retain this copy throughout your first two years at Binghamton University; and many of you may wish to retain it until you graduate. Replacement copies are **not** available (the Handbook is on the web page as a pdf file).

The next section focuses on freshman year and will be followed by a section on sophomore year. Please bear in mind that most of what is covered in the freshman section is applicable during sophomore year as well. The handbook will conclude with two sections: one covering special programs and one containing selected references.

FRESHMAN YEAR

Introduction

Freshman year presents the challenge of becoming a responsible adult as you adjust to both a new life style and a more difficult academic regime. To make these two major adjustments as uncomplicated as possible, it is important to maintain a balanced course load throughout the year, especially in first semester. Usually this is accomplished by taking two science courses and two non-science courses per semester, though some students' schedules may vary from this. Moreover, keep in mind that a pre-health professions student should get a liberal education, which includes familiarity with the social sciences and humanities. Also, there are a number of college and general education requirements which must be met by graduation. Satisfaction of these requirements depends upon taking a variety of courses during your years at Binghamton University, and it is especially important that you get a good start freshman year. While this may seem a bit confusing now, careful planning, coupled with the fact that many courses will fulfill at least two of these requirements, will allow timely completion of the pre-health requirements, your major requirements, and the college and general education requirements.

Curriculum

This discussion will address the specific courses required for admission to the various doctoral level health professions programs and will suggest ways to plan your schedule so that you have satisfied these requirements at appropriate points during your academic career at Binghamton University. There is, however, a caveat to this discussion, which concerns students majoring in **BIOCHEMISTRY, CHEMISTRY, PHYSICS or BIOENGINEERING**. These majors have a set of required courses which you must take in a specific sequence. Students contemplating one of these majors should consult the Harpur College of Arts and Sciences Academic Handbook, the Binghamton University Bulletin, departmental publications, departmental web pages, and/or the appropriate faculty advisor to determine these requirements. They should **NOT** follow the scheduling practices discussed below. Students in these majors will finish the required pre-health courses at the same time or sooner than others, so there is no disadvantage in pursuing one of these majors. **ALL COURSES LISTED BELOW MUST BE TAKEN FOR A LETTER GRADE.**

The courses required for admission to doctoral level health professions programs include:

1 year-Biological Science	BIOL 117 and 118.
1 year-Inorganic Chemistry	CHEM 107 and 108 OR CHEM 111 and CHEM 221 or 341 or 351. You MUST choose one sequence. You may NOT switch between sequences. (Also CHEM 107 MUST be taken in fall and CHEM 108 in spring).
1 year-Organic Chemistry	CHEM 231 and 332 and 335.
1 year-Physics	PHYS 121 and 122 (or 131 and 132).

1 year-English

Any course(s) in the English (ENG), Rhetoric (RHET), Creative Writing (CW), Writing (WRIT) or Comparative Literature (COLI) Departments.

Required by some, but not all, health professions programs.

1 semester-Mathematics

Calculus I (MATH 221)

Although there is a high degree of uniformity among the various health professions, some variation in these requirements does occur. These variations are most succinctly represented as follows:

Medicine-About a dozen schools require a second semester of mathematics. Some, but not all, of these will allow statistics (MATH 147, MATH 148 or PSYC 243) to be substituted for MATH 222.

Dentistry-Some dental schools are now requiring 1 semester of calculus (MATH 221). Many dental schools are beginning to require biochemistry (BIOL/BCHM 302), which is typically taken during spring semester of senior year. Some dental schools may recommend or require microbiology (BIOL 314/326).

Optometry-Some optometry programs do not require the second part of organic chemistry (CHEM 332). Most optometry schools require psychology (PSYC 111) and statistics (MATH 147, MATH 148 or PSYC 243). Some programs also require microbiology (BIOL 314/326), and Calculus II (MATH 222).

Podiatry-Mathematics is not required.

Veterinary medicine-In addition to the courses listed above, most veterinary schools require genetics (BCHM/BIOL 301), microbiology (BIOL 314/326), biochemistry (BCHM/BIOL 302), and statistics (MATH 147, MATH 148 or PSYC 243). Most schools do not require MATH 222. Consult the Pre-Veterinary Handbook on Bb for more information.

Chiropractic-Mathematics is not required. Psychology (PSYC 111) usually is required.

Allied Health-There are a variety of these programs; the most popular being physical therapy, physicians assistant, occupational therapy, pharmacy, and speech therapy. With the occasional exception of mathematics, most of the courses listed above are required. Moreover, there are a number of additional requirements, which in some cases may equal the ones listed above. If you feel that your interest lies in any of these, you should obtain detailed profession specific information from the pre-health web page by the end of sophomore year.

The best way to understand how these various courses relate to one another and to your overall curriculum is to examine a few sample schedules. These schedules will focus primarily on freshman year, but also will illustrate sophomore year in order to provide for you a more complete picture of your first two years at Binghamton. You will note that CHEM 107-108 is a constant in these schedules because many students have found that performance in CHEM 107-108 is a good barometer for future classes. Also, some schedules include idiosyncrasies (e.g. summer courses, transfer courses, AP credit) to illustrate how these may be factored into one's schedule.

SAMPLE SCHEDULE A

Freshman Year

Fall

CHEM 107
BIOL 117
Non-science
(Non-science/HWS)*

Spring

CHEM 108
BIOL 118
Non-science
Non-science

Sophomore Year

Fall

CHEM 231
MATH 221
Non-science
Non-science

Spring

CHEM 332
CHEM 335
Non-science
Non-science

* It is acceptable to enroll for 12 credits first semester of freshman year or to substitute HWS for the second non-science course.

SAMPLE SCHEDULE B

Freshman Year

Fall

CHEM 107
Non-science
Non-science
(Non-science/HWS)#

Spring

CHEM 108
BIOL 118
Non-science
Non-science

Sophomore Year

Fall

CHEM 231
BIOL 117
Non-science
Non-science

Spring

CHEM 332
CHEM 335
Course^{\$}
Non-science

^{\$} "Course" may be either a science course or a non-science course.

[#] It is acceptable to enroll for 12 credits first semester of freshman year or to substitute HWS for the second non-science course.

SAMPLE SCHEDULE C

Freshman Year

Fall

CHEM 107
MATH 221
Non-science
(Non-science/HWS)*

Spring

CHEM 108
MATH 147 (see notes p. 3)
Non-science
Non-science

Sophomore

Fall

CHEM 231
BIOL 117
Non-science
Non-science

Spring

CHEM 332
BIOL 118
CHEM 335#
Non-science

* It is acceptable to enroll for 12 credits first semester of freshman year or to substitute HWS for the second non-science course.

May be postponed until fall semester of junior year.

SAMPLE SCHEDULE D

Freshman Year

Fall

CHEM 107
MATH 221*
Non-science
(Non-science/HWS)#

Spring

CHEM 108
BIOL 118
Non-science
Non-science

Sophomore Year

Fall

CHEM 231
BIOL 117
Non-science
Non-science

Spring

CHEM 332
CHEM 335
Course
Non-science

*See notes p.3

It is acceptable to enroll for 12 credits first semester of freshman year or to substitute HWS for the second non-science course.

SAMPLE SCHEDULE E

Freshman Year[#]

Fall

CHEM 107
Non-science
Non-science
(Non-science/HWS)^{\$}

Spring

CHEM 108
Non-science
Non-science
Non-science

Sophomore Year

Fall

CHEM 231
Course
Non-science
Non-science

Spring

CHEM 332
CHEM 335
Course
Non-science

[#] Student has AP credit for BIOL 117-118 and MATH 221.

^{\$} It is acceptable to enroll for 12 credits first semester of freshman year or to substitute HWS for the second non-science course.

As you can see from the sample schedules, there are a variety of ways to begin the pre-health course sequence at Binghamton University. The sequence is usually completed by taking physics during junior year. Some students may have other required courses to complete during junior year, such as English, organic chemistry laboratory, or perhaps CHEM 332. This is quite acceptable. **However, everyone should have completed all the science requirements (excluding English and mathematics) by the end of junior year (especially pre-med students);** or at the very latest by the beginning of senior year. The reason for this particular stipulation is that the application process for most doctoral level health professions takes between twelve and fourteen months; the entirety of senior year. In order to participate in the application process, students are required to take an admission test covering the four sciences in either the spring of junior year, or in the summer between junior and senior years, or early in the fall of senior year. If you have not completed the science requirements on time, you will not be able to take the examination required for application on time, which results in having a one or two year gap between Binghamton and professional school. While some students may elect to postpone entering professional school for personal reasons, most students would not want this alternative forced upon them because of poor planning.

In addition to the required science courses and courses that may be required for your major or for college requirements/general education requirements, there are several non-science courses which pre-health students have found interesting over the years. Chief among these are medical ethics, a variety of biological anthropology courses, and several courses in the history of medicine. Other courses offered by the English, sociology, and political science departments also may be of interest. Please remember that these courses may be fulfilling one or more of your college/general education requirements, so you should feel free to explore non-science areas.

Summer Session

Students are often interested in taking required pre-health science courses during summer session. Unless these summer session courses are taken at Binghamton University, you should refrain from such actions. Many professional schools, especially medical schools, frown upon the practice of taking required science courses away from your home institution during the summer, especially if they are taken at community colleges. It is acceptable, however, to take non-science courses or mathematics at home if you need additional credit or have had scheduling difficulties at Binghamton. If you are in a situation where you feel it is absolutely necessary to take a required science at home during summer, you should check with Dr. Langhorne or Ms. Jones first. Also, remember that if you are taking a course at home that is required of your major you will need to get your department's prior approval. For further information, please see "Guidelines for Transferring Credit to Harpur College," which is available on the Harpur College Academic Advising web page.

Extra-Curricular and Related Activities

In addition to questions about academic preparation for the health professions, students often have questions about what non-academic activities will be beneficial to them during their years at Binghamton University. These generally fall into two categories: those perceived as “required” and all others.

“Required”

Generally, the admissions committees at health professions schools expect that you have had some exposure to that profession, in addition to being a patient, prior to applying. Gaining this exposure can be accomplished in a variety of ways, but it is usually an incremental process occurring over several semesters/years. For example, pre-medical students can begin by being hospital volunteers and perhaps later do a CDC Internship and/or a summer program, the Summer Physician Mentor Program, and/or the Harpur College Binghamton Area Physician Mentor Program. Service in Harpur’s Ferry may also provide exposure.

Pre-dental and pre-optometry students usually begin by observing in their own dentist’s/optometrist’s office and then may branch out into other activities. For example, pre-dental students can do a CDC internship with a local practice or the Binghamton General Hospital Dental Clinic, or a summer program. Pre-optometry students usually try to volunteer in a variety of practice settings and may also do a summer program. A local optometry practice, Roberts Eyecare, sometimes hosts pre-optometry students.

It is very important for pre-veterinary students to gain veterinary experience as well as other experiences working with animals. Pre-veterinary students are highly encouraged to volunteer and/or obtain internship or volunteer experience with a veterinarian. The Ross Park Zoo, which is located in the city of Binghamton, often hosts internships for pre-veterinary students.

Information about these various options can be found elsewhere in this handbook, in the CDC (Career Development Center) office, and in the science department offices. Yet another source is information obtained from the Web. This latter source may be most beneficial if you are trying to find summer programs outside the New York State area.

Other

If anything, pre-health professions students tend to underestimate the importance of this category of extra curricular activities, possibly because of their diffuse nature. Nevertheless, health professions schools want to see that you have non pre-health related interests and involvements outside of academics and outside of whatever “required” professional exposure you pursue. What these activities are depends upon what your personal interests, likes, and dislikes are; hence their diffuse nature. They are, however, an important component of what defines you as an individual, and it is very important to maintain a balance between the two types of activities.

In a general sense, you should avoid the “shotgun” approach to these activities. This probably worked for many of you in high school, but the workload and social atmosphere at Binghamton University make this approach difficult. In addition, pursuing activities in this manner will not impress health professions admissions committees in the same way as it did undergraduate admissions offices.

Student Organizations

There are several campus organizations which are oriented towards pre-health professions students. While it is not required that you join any of these, participation may broaden your horizons, provide additional opportunities to you, and enable you to learn from the experiences of upper level students. Included among these are the following: Harpur’s Ferry Volunteer Ambulance Service, Charles Drew Minority Pre-Health Society, a pre-veterinary society, a pre-optometry club, and a pre-dental club. There are pre-health/pre-medical fraternities on campus one or two other pre-medical clubs.

Office Hours-Freshmen and Sophomores

The Pre-Health Professions Office is located in Academic B Room G18 and is housed within the Harpur College Academic Advising Office. You will have to visit the Harpur Academic Advising Office, for purposes in addition to pre-health, several times during your years at Binghamton University. In order to make your visits to the office (both Pre-Health Professions Office and Harpur College Academic Advising Office) more effective, you should heed the following advice. First, consult the web page (<http://harpur-advising.binghamton.edu> or <http://prehealth.binghamton.edu>). There’s a lot of information there, which may answer your questions without a trip to the office. Secondly, you need to have realistic expectations about the services available in the office, because of staff shortages. Walk-in hours tend to be crowded and the sign-in lists for both Pre-Health and general Harpur advisors fill up rapidly. You should plan to arrive 5-10 minutes prior to the beginning of walk-ins to insure a viable place in line. Once the list fills, it will be shut down. Furthermore, please be aware that rudeness to and abuse of secretarial staff or student workers will in no way hasten the processing of your materials. You will attract attention, of course, though not necessarily that which will be beneficial to your cause. Moreover, secretarial staff are unionized employees and are protected from harassment by both contractual and statutory regulations. Breaches of said regulations are actionable (that is, University Police will be called if the situation warrants). Finally, please be prepared, to the extent you are able, for contacts with the Harpur College Academic Advising Office. The more clearly and quickly we understand your concerns, the more effectively we can respond to them.

The Pre-Health Professions Office hours are listed below. During certain times of the semester, such as the first week of classes, these hours will be changed to accommodate higher than normal student traffic. These altered office hours will be posted on **PREHLTH-L**, on the Pre-Health Bulletin Board, and in the check-in area of AB G18. Summer hours differ significantly from these.

General Office Hours

Monday-Friday 10:00 am - 12:00 pm; 1:00 pm - 3:30 pm.
(During these hours you may use the resource area, obtain information sheets, etc.)

Walk-In Hours

Advisor: Tuesday, 1:00 pm - 3:00 pm; Wednesday, 10:00 - 11:30 am
Advisor for Freshman Pre-Health Students: check the chalk board outside of AB G-18, Bb, Facebook or the web site.

Peer Advising Hours

To be announced at the beginning of each semester. Hours are posted on Bb, Pre-Health bulletin board, the Pre-Health website and in the Pre-Health office.

Appointments

Michelle Jones, Advisor for freshman Pre-Health students, will meet with freshman students on an appointment basis. To make an appointment with her, contact the office at 7-6305.

Dr. Langhorne, Pre-Health Advisor, will meet with sophomores-seniors on an appointment basis. To make an appointment, contact the office at 7-6305.

Telephone Calls (7-6305)

The calling hours to speak with the Pre-Health Professions Advisor are:

Monday – Thursday 9:30-10:00am and 4:00-4:30pm

Friday 9:30-10:00am

The calling hours to speak with the freshman Pre-Health Advisor are:

Monday - Friday 9:30 am - 10:00 am and 4:00 pm - 4:30 pm

The calling hours to speak with the Pre-Health Secretary are:

Monday - Friday 10:00 am – 11:30 am and 12:30 pm - 3:30 pm.

Please be prepared to explain the purpose of your call to the person answering the phone. Often the questions students have can be handled by the secretary or another staff member, which makes for a more efficient use of everyone's time.

Web Page

<http://prehealth.binghamton.edu>

E-Mail

The Pre-Health Professions Advisor can be reached by e-mail at: prhealth@binghamton.edu. The advisor for Freshman Pre-Health students can be reached at mdjones@binghamton.edu. Lynne Datto, Pre-Health Secretary can be reached at: ldatto@binghamton.edu. Please be concise when sending your questions. If you have several, a phone call or a walk-in visit may be more appropriate, since your questions may be related and conversation may bring this out, whereas an e-mail response would not.

PREHLTH-L

To sign onto the Pre-Health Listserv, you will need to send the following message to LISTSERV@LISTSERV.BINGHAMTON.EDU

SUB PREHLTH-L *firstname lastname*

Some time later you will receive a welcome message from the listserv with basic instructions regarding usage, etc. If you have any difficulty, please send a message to Lynne Datto, Pre-Health Secretary (ldatto@binghamton.edu) and she will subscribe you manually.

FAX

The fax number for the Pre-Health Professions Office is 607-777-2721.

DARS

It is important that you bring your most recent DARS report whenever visiting the Pre-Health Professions Office to speak with the Advisor. You may print one from the BU Brain at any time.

Student Advisory Committee

The Pre-Health Student Advisory Committee contains 2-3 student members from each of the three upper division classes (sophomore, junior, senior). The Committee meets regularly with the Pre-Health Professions Advisor for discussion and planning on a variety of fronts. Throughout the course of the year, the Committee will conduct programming, publish a monthly newsletter, and pursue any special agenda items which come to its attention. The Committee Members also serve as peer advisors and hold regular office hours in the Pre-Health office. The names and email addresses of the Committee Members are posted on the Pre-Health bulletin board, listed on the Pre-Health web page, appear in each edition of the Pre-Health newsletter and are on the Pre-Health Advising Facebook page. If you have questions about pre-health, you should feel free to contact any member of the Committee. If they cannot answer your question immediately, they will research it and reply to you as soon as possible. Committee members are the only students on campus with sufficient background and access to information to provide timely, accurate responses to you.

Student Conduct

Students are responsible for understanding and abiding by the regulations for both academic and non-academic conduct stipulated in the *Binghamton University Student Handbook* and in the *Binghamton University Bulletin*. These guidelines seek to provide an environment in which the rights of all members of the community are protected. Violation of the rules can jeopardize a student's future plans, particularly since most professions now require disciplinary clearance. Furthermore, we are required to report such infractions to professional schools when you apply. If you have questions regarding this, please contact the Pre-Health Professions Advisor.

Most professions now require an additional disciplinary clearance as well as a criminal background check immediately before you enter professional school. This makes it more important than ever for you to not have a reportable offense in either of these categories.

A Final Comment

Everyone is aware, of course, that undergraduate grades are an important criterion for admission to health professions schools. Even more important, however, is the knowledge that is presumably, but not always, implied by good grades. You should strive for understanding; if you are successful, the grades will come automatically. If you get good grades in trivial courses, you will fool no one except yourself.

Furthermore, as you progress through freshman and sophomore years you may discover that your interests and aptitudes lie outside the health professions. You should be open to following these new pathways wherever they may lead. You will not be alone in this divergence, as many of your freshman classmates will be pursuing similar paths. You will, however, be happy and successful in aiming for these new, more personally rewarding goals.

SOPHOMORE YEAR

Introduction

Sophomore year is a transition year in many ways. Some of you will be crossing the boundary into upper level course work, while others will be exploring areas you never knew existed. All of you will be involved in selecting a major and in clarifying your interest in the health professions. Sophomore year also brings with it the continuation and culmination of course work and activities you began during freshman year. Therefore, only topics which are unique to sophomore year or later will be introduced here, since it is assumed that you are familiar with the material presented in the freshman section.

Curriculum

The curricular discussion presented in the freshman section included information about sophomore year. At this time, you also need to consider how to integrate courses from your major into the pre-health schedule. For example, if you are a science major you should be careful not to schedule too many science courses within any given semester. Alternatively, if you are a non-science major, you will have to ensure that you can complete the major by the end of senior year, because the pre-health science courses will not overlap with your major requirements as they would with a science major. (Please remember that “pre-med” or “pre-dental” is not a major).

It is also during sophomore year that those of you pursuing allied health professions programs (e.g. physical therapy, physicians assistant, occupational therapy, etc.) should obtain a detailed list of the requirements for your chosen profession. In the case of more popular professions, some of this information is available on the Pre-Health web page.

Summer Programs

There are a variety of specialized summer programs available for pre-health students. Some of these are offered through medical or dental schools, while others are offered through hospitals, research institutes, or the science departments at Binghamton University and other universities. Most of these programs accept applications from both sophomores and juniors, though some are restricted to juniors.

Summer programs fall into three categories: enrichment, experiential, and research. Enrichment programs provide academic support in strengthening a student's background in the sciences as well as exposure to the student's chosen profession. Experiential programs provide hands-on exposure to a student's chosen profession. While there is usually an academic component to these programs, it is rarely of a classroom nature. Research programs provide students with exposure to scientific research, some of which may be related directly to medicine or another health profession.

The financial support provided by these programs varies. It may be direct (i.e. stipend), indirect (i.e. room and board, transportation, etc.), a combination of the two, or none at all. The deadline for applications is variable also. Some program deadlines are as early as December 1st, while others are as late as March 15th. Further information about summer programs can be obtained from the Pre-Health Newsletter for December, *PREHLTH-L*, and from the undergraduate bulletin boards and listservs in the science departments. In addition, if you know students who have attended programs in past years, you will be able to obtain information from them. This information is also available on the website of the host institution.

Credentialing

Some summer programs will require that you have a letter of recommendation from the Pre-Health Professions Advisor in addition to one from a faculty member. In order to arrange this, you will need to meet with the Pre-Health Professions Advisor at least once during fall or spring semesters of sophomore year. Please be prepared for your meeting because you will need to accomplish quite a lot in the time allocated to you.

It is also important to get to know at least one faculty member, if not two, by the end of sophomore year so that you can ask them for recommendations for these summer programs or for any of the early assurance programs in which you might be interested. This is admittedly a challenging task in an academic environment characterized by large lecture classes and relative anonymity, however, there are ways you can cope with this. Further information can be obtained by contacting any member of the Pre-Health Student Advisory Committee and by being aware of any programming sponsored by the Pre-Health Professions Office and/or the Pre-Health Student Advisory Committee dealing with freshman or sophomore years, since the topic will surely arise then.

Members of the Student Advisory Committee have suggested the following ways of getting to know faculty, even if classes are quite large. While this list is not exhaustive, it contains viable suggestions, especially for new students.

1. Have good attendance, sit near the front of the classroom, and try to sit in approximately the same place each day. Participate in class discussion.
2. Attend office hours regularly with legitimate questions. Attending office hours allows the professor to get to know you, which will prove to be beneficial when requesting letters of recommendation.
3. Complete assignments on time and otherwise demonstrate a good work ethic.
4. Follow up lectures with email questions if you are unable to attend faculty office hours regularly.

Study Abroad Programs

Contrary to what you may have heard, it is possible for pre-health students to participate in study abroad programs. However, it requires additional planning for you to do so. If you are interested in spending part or all of junior year or the summer before or after junior year in a study abroad program, you should speak with the Pre-Health Professions Advisor during fall semester of sophomore year. Typically, shifting required courses to summer session and re-configuring regular session will create a time gap within which it's easy to spend a fall and/or spring semester abroad. Alternatively, as mentioned above, it's possible to do a study abroad program during the summer. In this instance, limited or no shifting of courses is required, which works best for students in some of the more lengthy majors (e.g. biochemistry, neuroscience, etc.).

National Student Exchange

An alternative to study abroad programs, which may be of interest to some students, is the National Student Exchange (NSE). Participants in NSE spend up to a calendar year attending another college or university in a different part of the United States, Canada, Puerto Rico, Guam or the US Virgin Islands. Furthermore, because the host universities are all accredited US-Canadian institutions, it is possible to satisfy some pre-health requirements while in attendance, a situation not that common with study abroad programs.

Junior Year Scholarships

Over the past few years the Binghamton University Foundation has been the recipient of several donations which have been specifically for the purpose of creating scholarships for pre-medical and pre-dental students. Currently there is one scholarship for a junior pre-medical student (Edward Thorsen Memorial Scholarship). Students typically apply for this scholarship during spring semester of sophomore year, with the recipient being notified by the end of spring semester. More detailed information about this scholarship, as well as application materials, can be obtained from the Pre-Health Professions web page during spring semester (after March 1st) of sophomore year.

Transitions

Junior year is perhaps the most important year for pre-health professions students. During this time you will take an admission test, begin the process of application, and complete your credentials file. In order to provide some advance information to you there is a special SOPHOMORE MEETING during spring semester. This meeting usually occurs around the middle of the semester and consists of a brief prepared presentation by the Pre-Health Professions Advisor and members of the Student Advisory Committee followed by a lengthy open period for questions from you. The meeting will be announced on PREHLTH-L and through posted notices. In order to be prepared for Junior Year, it is important for you to attend this meeting.

The Sophomore Meeting is first of a series of meetings which will continue through senior year. The most important of these, however, are those held during junior year. To insure that you are informed of these meetings and other events, please remember to subscribe to PREHLTH-L.

PRE-HEALTH SPECIAL PROGRAMS

Introduction

There are several special programs available to pre-health students in Harpur College. Some of these are internal to Binghamton University, while others involve an articulation agreement with another university. Although most require that you be a sophomore or junior to participate, there is one in which you may participate as a second semester freshman. Please review this section carefully, so that you are aware of the various programs available to you

Harpur College Binghamton Area Physician Mentor Program

This program is designed primarily for juniors. It pairs a premedical student with a local alumni physician for the duration of junior year. Students spend two days a month observing and participating in their mentor's daily routine. Program requirements stipulate that participants must be good students overall, that they be from non-practitioner families, and have a GPA of 3.0 or higher. Application occurs at the end of sophomore year. After screening for maturity, integrity, interest, and perceived gain from the program, students are notified of their placement. The program begins in late September with an orientation meeting. For further information, please contact the Pre-Health Professions Office.

Harpur College Summer Physician Mentor Program

The Harpur College Summer Physician Mentor Program (sponsored by the Physician Alumni Council), is for sophomore and junior students living in the Greater New York City metro area. Applications are available early in spring semester. After screening by a selection committee for maturity, integrity, interest, GPA (3.0 or higher), and perceived gain from the program, students are notified of their placement in early/mid April. The program begins with two orientations held on campus at the end of spring semester. Meeting with your mentor begins in early June, once you have returned home for the summer. For further information, please contact the Pre-Health Professions Office.

Binghamton University-SUNY Optometry Joint Degree Program

This program allows you to obtain a BA (Biology) degree from Binghamton and an OD degree from SUNY Optometry in seven years, instead of the eight years it normally takes to complete both degrees. You may apply to this program as a high school senior or as a second semester freshman. Because of the structured nature of the course work and the short time (three years) you will be at Binghamton if accepted into the program, transfer students and sophomores are NOT eligible for the program. The details of the application are given below.

High School Seniors: To enter the JDP directly out of high school you must first be accepted into Harpur College, the undergraduate liberal arts division of Binghamton University. To do this you should apply under the curriculum code for "3/4 Optometry" listed in the master SUNY System application. Once accepted into Harpur you must: 1) complete a 500-750 word essay on why you want to be in the JDP; and 2) be available to come to the Binghamton campus for an admissions interview. Acceptance letters to Harpur are usually mailed during the first part of March. Shortly thereafter you will receive an email with the final instructions for the JDP application. This email will inform you of the deadline for submitting your essay and the interview dates for that year. When your essay is received, it, along with your high school record, will be evaluated by an admissions committee composed of both Binghamton

and SUNY Optometry personnel. You will be notified if you have passed this screening and then you will come to campus for an interview. Interviewed applicants will be notified of the outcome of their interview by May 1st. To be eligible for the program you need SAT scores of 1300 (minimum 670 math, 630 verbal), or higher, a 93% high school average, and to have graduated in the upper 10% of your high school class.

If you are accepted into Harpur College from the wait list, you are unable to apply directly to the JDP because of the timing and deadlines involved. Nonetheless, you are encouraged to attend Binghamton because you will have another chance to apply to the JDP as a second semester freshman.

Second Semester Freshmen: Students interested in the JDP also have the opportunity to apply to the program during second semester of freshman year. The application procedure and requirements are different for these students. Freshman applicants must have taken or be taking at least three (3) of the science courses required for admission to SUNY Optometry. They must have a GPA of 3.3 or higher for both science and non-science courses taken during first semester. In addition, no science grade can be below a C. Freshman students interested in applying should consult with the Pre-Health Professions Advisor at the beginning of their second semester.

Application forms are available by mid-February and are due in the Pre-Health Professions Office by the end of March. After review by a joint admissions committee, applicants are notified as to whether or not they will be interviewed. The remaining steps in the process are the same as they are for high school senior applicants.

Concluding Remarks: Students in the JDP must meet with the Pre-Health Professions Advisor twice a year. Also, acceptance into the JDP does not guarantee automatic admission to SUNY Optometry. To gain final admission to SUNY Optometry, participants must maintain a 3.3 GPA in both science and non-science courses, with no grade below a C. They must take the Optometric Admissions Test(OAT) during junior year and score 330 or higher on all sections. They must obtain a positive composite evaluation from the Pre-Health Professions Advisor. They must complete all SUNY Optometry admission requirements, all Binghamton University requirements, and submit the required application materials to SUNY Optometry during fall of junior year. Finally, they must perform well on an interview at SUNY Optometry during junior year.

SAMPLE CURRICULUM FOR JDP STUDENTS

Freshman Year

Fall Semester		Spring Semester	
BIOL 117 Introductory Biology	4	BIOL 118 Introductory Biology	4
CHEM 107 Introductory Chemistry	4	CHEM 108 Introductory Chemistry	4
English/Social Science/Humanity	4	English/Social Science/Humanity	4
English/Social Science/Humanity	<u>4</u>	English/Social Science/Humanity	<u>4</u>
	16		16

Sophomore Year

CHEM 231 Organic Chemistry I	4	CHEM 332 Organic Chemistry II	4
MATH 221 Calculus I	4	CHEM 335 Organic Chemistry Laboratory	2
English/Social Science/Humanity	4	English/Social Science/Humanity	4
English/Social Science/Humanity	<u>4</u>	BIOL _____ *	4
	16	Physical Education	<u>1</u>
			15

Junior Year

PHYS 121 General Physics I	4	PHYS 122 General Physics II	4
MATH 148 Statistics for Biologists	4	PSYC 111 General Psychology	4
BIOL _____ *	4	BIOL _____ *	4
English/Social Science/Humanity	4	English/Social Science/Humanity	<u>4</u>
Physical Education	<u>1</u>		16
	17		

* Three upper level biology courses must be taken at Binghamton University. Students should select from either BIOL 301 or BIOL 311 AND ALSO from either BIOL 351 or BIOL 355. The third class is of the student's own choosing. Students may **not** take histology (BIOL 324), animal physiology (BIOL 331), or neurobiology (BIOL 313).

Binghamton University-SUNY Upstate Medical University College of Medicine Early Assurance Program

This program is open to second semester sophomores only. If accepted, students will be able to spend their last two years at Binghamton without the pressures ordinarily experienced by premedical students during this period of their lives. The criteria for this program are listed below.

1. Applicants must have completed three of the four of the required premedical science course sequences, with a minimum GPA of 3.5 in both science and non-science courses and by the end of sophomore year. Applicants should also have attained a score of 1300 or higher on the SAT (math + verbal) or a score of 29 on the ACT.
2. Applicants must complete an application form and submit it, along with SAT scores, a transcript, a processing fee, and any other required material to the College of Medicine prior to July 1st of their sophomore year.
3. Applicants must complete a credentials file in the Pre-Health Professions Advising Office by June 1st of their sophomore year and have their composite evaluation sent to the College of Medicine.
4. If accepted, students must maintain a normal course load during their remaining two years, complete the pre-medical requirements, perform well overall (i.e. 3.5 GPA or higher), and graduate from Binghamton. In addition, students must take the MCAT by January of their year of entry and obtain a score of 30 in one sitting for the exam (they will have two opportunities to accomplish this).

5. Students must commit themselves to attend the SUNY-Upstate Medical University College of Medicine upon completion of their degree at Binghamton.

Students interested in the Upstate EAP should obtain an application from the Upstate web page in spring semester. They should make appointments with the Pre-Health Professions Advisor in fall and spring semesters. During the months of July and August applications and related materials will be examined by the Upstate admissions committee. If you pass this preliminary screening, you will be asked to go to Syracuse for an interview during late August/early September. You will be informed by October 1st of junior year as to whether or not you have been accepted. Questions should be directed to the Pre-Health Professions Advisor or to Upstate Medical (315-464-4570) or (www.upstate.edu).

Binghamton University-SUNY Buffalo School of Medicine Early Assurance Program

This program is open to second semester sophomores only. It is designed to relieve the stress (i.e. MCAT, interviews) typically experienced by premedical students during their last two years of college. The criteria of the program are listed below.

1. Applicants must have completed three of the four of the required premedical science course sequences, with a minimum GPA of 3.75 in both science and non-science courses by the end of sophomore year. Applicants should also have attained a score of 1400 or higher on the SAT.
2. Applicants must complete an application form and submit it, along with SAT scores, a transcript, and a processing fee to the School of Medicine by February 1st of sophomore year.
3. Applicants should complete a credentials file in the Pre-Health Professions Office by January 15th of their sophomore year and have their composite evaluation sent to the School of Medicine.
4. If accepted, students are expected to complete the premedical requirements, maintain an acceptable course load, perform well overall (i.e. maintain a 3.75 GPA in both science and non-science courses), and graduate from Binghamton.
5. Applicants must commit themselves to attend the SUNY Buffalo School of Medicine upon graduation from Binghamton.

Interested students must meet with the Pre-Health Professions Advisor by the middle of fall semester. Applications can be obtained from School of Medicine web page during mid to late fall semester. During February and March your application materials will be reviewed by the School of Medicine's admissions committee. If you pass this screening, you will be invited to Buffalo for an interview, during late March/early April. You will be notified as to whether or not you have been accepted into the program by the end of second semester of sophomore year. Questions can be directed to the Pre-Health Professions Advisor or the School of Medicine (716-829-3465) or (<http://wings.buffalo.edu/smb/>).

Binghamton University-SUNY Buffalo School of Dental Medicine Early Assurance Program

This program is designed to assure an undergraduate student an acceptance into dental school after two years of study, thus allowing the completion of the remainder of the four year undergraduate

curriculum without concern for admission into dental school. To be eligible for this program a student must have completed two years of undergraduate study (approximately 60 credits) with a GPA of 3.5 or higher in both science and non-science courses and plan to graduate from Binghamton University within two years. While no specific major is required, the applicant must have completed half of the required pre-dental science course sequences, the English requirement, and demonstrate maturity and a strong motivation for dentistry. Individuals accepted into the EAP will be required to take the DAT (Dental Admission Test) in their junior year and score at least a 20 on the Academic Average, PAT, and Reading Comprehension sections of the test to remain in the program. These scores must be obtained on the same attempt of the DAT. Also, individuals accepted into the program will be required to maintain at least a 3.7 GPA in both science and non-science courses for continuance in the program. The program also requires that participants have over 100 hours exposure to clinical dentistry, either before acceptance into the program or during their last two years at Binghamton. Applications are due June 1st of sophomore year. The application and credentialing processes for this program are similar to those described above for the two medical early assurance programs except that the deadline for completion of the credentials file in the Pre-Health Professions Office is **May 1st**. Interested students should consult with the Pre-Health Professions Advisor by the end of fall semester. Detailed questions may be addressed to the Advisor or to the School of Dental Medicine (716-829-2839 or 716-829-2862). Applications materials should be obtained from the School of Dental Medicine web site.

SELECTED REFERENCES

Introduction

This section contains a listing of publications and URLs which pre-health professions students may find useful as they progress through their years at Binghamton. Also, ordering information for many of these books is available at the end of this section, should you desire to purchase a copy for your own use.

Books

- # American Dental Education Association
annual Admission Requirements of U.S. and Canadian Dental Schools
(published annually by ADEA) [2]

- # Association of American Medical Colleges
annual Medical School Admission Requirements
(published annually by AAMC) [1]

- # -----
biennial Minority Student Opportunities in U.S. Medical Schools
(published biennially by AAMC) [1]

- # Baffi-Dugan, Carol
biennial Health Professions Admissions Guide (NAAHP) [3]

Ordering Information for Books

- [1] Association of American Medical Colleges
Membership and Publication Orders
2450 N Street, N.W.
Washington, DC 20037-1129
202-828-0416
<http://www.aamc.org>

- [2] Membership Assistant
American Dental Education Association
1625 Massachusetts Avenue, N.W.
Washington, DC 20036-2212
202-667-9433
<http://www.adea.org>

- [3] NAAHP, Inc.
P. O. Box 1518
Champaign, Illinois 61824-1518
217-355-0063
<http://www.naahp.org>

URLS

SELECT WEB SITES RELATED TO THE HEALTH PROFESSIONS

American Academy of Optometry
<http://www.aaopt.org/>

American Assoc. of Colleges of Osteopathic
Medicine
<http://www.aacom.org>

American Association of Colleges of Pharmacy
<http://www.aacp.org>

American Assoc. of Colleges of Podiatric
Medicine
<http://www.aacpm.org>

American Association of Dental Schools
<http://www.adea.org>

American Assn. of Naturopathic Physicians
<http://www.naturopathic.org>

American Veterinary Medical Association
<http://www.avma.org>

American Dental Association
<http://www.ada.org>

American Medical Association
<http://www.ama-assn.org>

American Medical Student Association
<http://www.amsa.org/>

American Medical Women's Association
www.amwa-doc.org

American Occupational Therapy Association
<http://www.aota.org>

American Osteopathic Association
<http://www.am-osteo-assn.org>

American Physical Therapy Association
<http://www.APTA.org>

American Podiatric Medical Association
<http://www.apma.org>

American Podiatric Medical Student
Association
<http://www.apmsa.org>

American Public Health Association
<http://www.apha.org/>

Association of American Indian Physicians
<http://www.aaip.com>

Association of American Medical Colleges
<http://www.aamc.org>

Assoc. of American Veterinary Medical
Colleges
<http://aavmc.org>

Assoc. of Schools and Colleges of Optometry
<http://www.opted.org>

American Chiropractic Association
<http://www.amerchiro.org/>

American Association of Dental Schools
<http://www.adea.org>

American Dental Association
<http://www.ada.org>

American Optometric Association
<http://www.aoanet.org>

American Optometric Student Association
<http://www.nationalaosa.org/>

American Academy of Physician Assistants
<http://www.aapa.org/>

American Assoc. of Colleges of Podiatric
Medicine
<http://www.aacpm.org>

American Podiatric Medical Student
Association
<http://www.apmsa.org>

Aspiring Docs
<http://www.aspiringdocs.org>

National Assn. of Medical Minority Educators
<http://www.namme-hpe.org/>

MEDPREP
<http://www.som.siu.edu/medprep>

NIH Undergraduate Scholarship Program
for Individuals from Disadvantaged
Backgrounds
<http://ugsp.info.nih.gov/>

FastWeb (scholarships)
<http://www.fastweb.com>

GrantsNet
<http://www.grantsnet.org>

GSA Financial Assistance Fact Sheets
<http://www.aamc.org/about/gsa/stloan/start.htm>

Navy Health Professions Scholarship Program
<http://nshs.med.navy.mil/hpsp/new.html>

Dept. of Health and Human Services
<http://www.hhs.gov>

National Institutes of Health
www.nih.gov

National Rural Health Association
<http://www.NRHArural.org>

National Science Foundation
www.nsf.gov

American Assoc. for the Advancement of
Science
<http://www.nextwave.org>

MEDLINE
<http://www.nlm.nih.gov>

Pfizer Medical Humanities Initiative
<http://www.positiveprofiles.com>

Profiles in Science (Ntl. Library of Medicine)
<http://www.profiles.nlm.nih.gov>

NIH Office of Alternative Medicine
<http://altmed.od.nih.gov/>

Journal of the American Medical Association
<http://www.ama-assn.org/public/journals/jama/>

New England Journal of Medicine
<http://www.nejm.org>

NAAHP
<http://www.naahp.org/>

NEAAHP
<http://www.neaahp.org>

Syracuse Univ. Health Professions Advisory
Program
<http://www-hl.syr.edu/hpap>

Medical School Interview Feedback Page
http://www.med.jhu.edu/meded_feedback/

Medical Student JAMA
<http://www.ama-assn.org/msjama>

National Science Foundation Summer
Opportunities
www.nsf.gov/home/crssprgm/reu/reubio.htm

Organization of Student Representatives (OSR)
<http://www.aamc.org/about/osr/start.htm>

Summer Research Programs in the
Biomolecular Sciences
<http://www.medicine.uiowa.edu/biosciences/summerprograms.htm>

Undergraduate Biology Science Summer
Programs
<http://www.faseb.org/ascb/commit/mac/>

FREQUENTLY ASKED QUESTIONS

Q: Do I have to be a science major to enter a health professions school?

A: No

Q: Do I have to go directly to professional school upon graduation from Binghamton or can I take time off?

A: No, you may take time off.

Q: Can I be pre-health and study abroad?

A: Yes. See page 14-15 of this Handbook

Q: What (medical, dental) schools do Binghamton graduates typically attend?

A: For the Binghamton graduating class of 2010, the following professional schools have the most Binghamton alumni in their entering classes.

Medical

NYCOM

St. George's

Upstate

Downstate

LECOM

NY Medical College

Dental

Buffalo

NYU

Stony Brook

Temple

UPenn

Q: May I take courses in summer school?

A: Yes/No/Maybe. See page 8 of this Handbook.

Q: What courses do I have to take?

A: See pages 3-7 of this Handbook.

Q: What are the add/drop deadlines?

A: The add deadline is the date after which you cannot add more classes to your schedule without special permission. It is typically at the end of the second week of classes in any semester. The drop deadline is the date after which you cannot drop (remove) a class from your schedule without penalty. It is typically at the end of the second week of classes. Furthermore, the withdraw date is typically one week past the mid-point of any semester. Between the drop date and the withdraw date you may withdraw from a class without special permission. However, the class remains on your record and is assigned a grade of "W" (withdraw). After the withdraw date, you will need special permission to withdraw from a class. In general, obtaining special permission is extremely difficult and usually

unlikely unless you have documented extenuating circumstances. If there is a typical mistake made by new students, it's sticking with a course load which is too heavy and not realizing that you should drop a course before it harms your overall performance. In high school, most of you didn't have the option of dropping courses or else were able to persevere, so that having the ability to do so in college is not an option you readily recognize and utilize.

Q: Who can I contact for more information?

A: The Pre-Health Professions Advisor, Freshman Pre-Health Advisor, or any member of the Pre-Health Student Advisory Committee. See pages 9-10 of this Handbook.

... When in doubt, re-read this handbook to be sure you haven't missed something ...