

Using a Summer Workshop to Recruit Talented Minority High School Students

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Abstract

For the past five years, we have offered a selective 12-day residential workshop for approximately 24 high school juniors and seniors from minorities underrepresented in science and health professions. Participants are chosen by faculty on the basis of essays, transcripts, and letters of recommendation from high school teachers and guidance counselors. The program includes three mini-courses, two in biology and one in computer technology. The latter was added to help students understand the connection between technology and the health professions and also to meet the needs of a significant number of participants who express interest in engineering and computer science careers. We believe that the success of our program can be attributed to several key elements:

- A dedicated and consistent team of college faculty, student-counselors, and high school science teachers.
- A unifying theme (HIV/AIDS for the past two years).
- An appropriate balance of academics, educational field trips, and recreational activities.
- Continuous reevaluation of the program.
- Personal contact with the participants before, during, and after the program.
- Support from the college.

With the addition of admissions interviews during the summer and a reunion of students in the fall when classes are in session, the program has become an effective recruiting tool; 12 former participants are now enrolled at the college. The model that we present can be easily adapted to other institutions, disciplines, and/or target populations.

I. Introduction

The importance of establishing a workforce which is as diverse as the general population is well recognized. And yet several racial groups--among them African-American, Native American, and Hispanic/Latino--continue to be seriously underrepresented in the science and health professions. Over the past decade several initiatives have sought to address this problem. For example the Association of American Medical Colleges (AAMC) launched Project 3000 by 2000 in 1991 in an effort to increase minority enrollment in U.S. medical schools by establishing partnerships between K-12 school systems, colleges, and health professions schools¹. Initially the project was very successful; between 1991 and 1994 the number of minority applicants to medical schools increased by 40% and the number of matriculants increased by 27%². The mid-1990's, however, brought successful challenges to affirmative action. These included Proposition 209, which was passed in California in 1996, and the 1997 decision of the Fifth Circuit Court of

Appeals in the Hopwood case in Texas³. As a result, the initial success of Project 3000 by 2000 and other similar programs was severely compromised. In 1996, partially in response to this turn of events, Health Professions for Diversity, a coalition of 51 medical, health, and education organizations coordinated by the AAMC, was established in order to educate the public about the importance of diversity in the workplace and to protect the right of graduate health profession programs to consider factors such as race, ethnicity, and gender in the admissions process¹.

Both Project 3000 by 2000 and Health Professions for Diversity have recognized, however, that in addition to ensuring that minorities continue to be recruited in sufficient numbers to health profession schools, it is important to nurture talented minority students at all educational levels, including those in middle and high schools.

Beginning in 1996 and for each of the past five years, Union College has conducted a unique residential 12-day intensive Summer Science Workshop (SSW) for talented minority high school juniors and seniors with an interest in the biological sciences and health professions. The program has several major goals. It is designed to encourage students to continue on to college to pursue science or health careers and to provide them with an intensive, real-life college learning and living experience. More broadly, the program is designed to help redress the grave and continuing underrepresentation of minorities in those careers.

II. Institutional Background

Union College is a small liberal arts college in Schenectady, NY. Founded in 1795, it was the first arts college to offer engineering as part of its curriculum. In the fall of 2000 the undergraduate student population was 2,064. Of these, 172 (8.3%) were students from underrepresented minorities. Minority representation among more than 300 students advised by our Health Professions Program is 17.2%

III. Recruitment of Program Participants and Staff

A. Recruitment of Participants: The SSW is publicized in a number of ways. Each winter, program descriptions and applications are mailed to high school science teachers and guidance counselors, directors of special programs for underrepresented minority students, and selected Union alumni. In addition, Union admissions officers provide information about the program to counselors and science teachers when they visit high schools as part of the College's regular recruitment process. We are also aware that former participants have publicized the workshop in their high schools and have encouraged their classmates to apply. Applicants must have completed their sophomore or junior year and must have taken year-long courses in biology and chemistry prior to entering the program. From 60-80 applicants, 24 students are selected by faculty on the basis of essays, transcripts, and letters of recommendation from teachers and guidance counselors. Geographic diversity is achieved by selecting some students from our immediate geographic area, some from programs/schools with which we have previously worked (e.g., the Gateway for Higher Education in New York City), and others from other parts of the U.S., in addition to one or two international students.

B. Recruitment of Faculty and Staff: We believe that one of the keys to the success of our program

is having a consistent and dedicated team. In our program this team consists of (1) the director, who oversees the financial aspects and submits a yearly report to the Schenectady County Health Department which grants the permit for operating a children's camp; (2) the coordinator, who works with the staff to plan the schedule and work out all of the logistical details, distributes application materials, communicates personally with all of the participants, processes evaluation forms, and plans the reunion each fall; (3) Union faculty--two from biology and one from computer science, who teach the mini-courses; (4) two local high school science teachers, who live in the dormitory with the students, assist with teaching in the laboratory, and accompany students on field trips; and (5) five student counselors (including one administrative counselor) who contact students prior to their arrival, oversee evening and weekend recreational activities, and, like the teachers, live with the students and assist them with their classwork. The latter are selected from our undergraduate science and pre-health students on the basis of applications, interviews, and letters of recommendation from college faculty. We schedule monthly meetings prior to the workshop, frequent informal meetings as needed during the workshop, and a debriefing session immediately following the conclusion of the workshop.

IV. Program Components

While the program has had a biological emphasis from its inception, for the past two years we have tied together all aspects of the program with a unifying theme of HIV/AIDS which is reflected in mini-courses, educational field trips, papers, oral presentations, and talks given by special guest speakers. We have established a program that achieves an appropriate balance of academics, educational field trips, and recreational activities. In some instances students have asked to forego recreational activities in order to work on their assignments. We have included the 12-day schedule from our 2000 SSW (Fig. 1).

A. *Mini-Courses*: The academic portion of the SSW is divided into three mini-courses: (1) **Computer Technology** which includes a review of basic computer skills, an introduction to video imaging and the World Wide Web (WWW) and their applications to science and medicine; (2) **Immunology** in which the immunological responses of organisms to infectious diseases is studied; and (3) **Cellular and Molecular Biology** in which students learn fundamental techniques of in vitro cellular culture and molecular biology including PCR. An effort is made in all mini-courses to achieve a balance between depth and breadth, and between theory and hands on application.

1. **Computer Technology:**

Objectives:

The computer technology mini-course was added during the second year of the program because we discovered that students came to the program with widely varying computer skills. A college level research paper and presentation have been an important part of the workshop since its inception and both require a high level of computer competence. Thus, we cover the computer skills that students need to write a clear, concise, easy to read research paper. The Netscape browser and search engines are used to locate data relating to AIDS on the WWW, and their use is covered in class. The reliability of all data must be evaluated regardless of source and some guidelines for evaluating information found on the WWW are presented. After discussing some of the tools for finding reliable data the difference among the terms: data, information, and

knowledge are introduced. Spreadsheets and databases are introduced as applications programs that can be used to analyze and present data to convert data to information. Finally, techniques for giving effective presentations are covered.

Students have also expressed an interest in learning about computer technology especially as it relates to the study of biology and medicine. In addition, most high school students don't really know what career they want pursue. A typical comment in the SSW application essay is something similar to: "I would like to study biology, or maybe engineering, or maybe computer science". Thus, the technology mini-course has been expanded to include an introduction to computer video processing and multidisciplinary and interdisciplinary studies and careers.

Implementation:

The lectures are held in a modern electronic computer classroom in which each student is seated at a computer and the professor is positioned at a computer console connected to a projection system so that the instructor can demonstrate a concept while the students are doing the same thing on their own computers. The high school teachers, student counselors, and professor closely supervise the students both during the mini-course and during evenings and the weekend when computers continue to be made available for their use.

The two-day lecture schedule:

Day 1: In the morning students visit the General Electric Corporate Research and Development Center (GECRD). Back at Union College, the afternoon lecture begins with a review of basic Windows computer skills such as creating and saving files, backups, and using the printer. Students are then given a sample research paper to enter on their computer using Microsoft Word. The sample paper can be used as a template for writing their own paper and also exercises the word processing skills they will need. An Excel spreadsheet is created using the data given in the sample research paper, the data are graphed and the graph included in their Word document (using Object Linking and Embedding).

Day 2: The morning lecture covers the use of the Netscape browser to locate information on the WWW. The use of spreadsheets and databases for data visualization is discussed and demonstrated. The morning lecture ends with a discussion of using Microsoft PowerPoint for making presentations. In the afternoon, students use the Electrical Engineering/Computer Science Sun workstation laboratory to use computer techniques, similar to the ones they saw demonstrated at GECRD, to manipulate a picture of themselves taken using a digital camera. The afternoon continues with a discussion relating the GECRD field trip to some of the material covered in the lectures, a discussion of interdisciplinary careers, and some of the ethical issues that may arise as a result of the information/technological revolution.

2. Immunology

Objectives:

This mini-course covers an introduction to the immune system and the way in which it has evolved to protect the body from pathogens such as viruses, bacteria, protozoan, and helminth diseases. HIV/AIDS is used as an example to illustrate the operation of the human immune system. Students are introduced to the origin of the cells involved in the immune response, their structure, function, and the way in which they communicate at the molecular level to eliminate

pathogens. The life cycle of the human immunodeficiency virus and its interaction with helper t-cells is studied and the clinical manifestations along with the opportunistic infections that may manifest themselves (including certain cancers).

Implementation:

The immunology mini-course uses a combination of lecture, discussion, audio-visual aids, and laboratory experiences to introduce the students to the immune system.

Three-day lecture/laboratory schedule:

Day 1: The first laboratory introduces students to the vocabulary associated with the immune system through an exercise designed to identify cells of the haematopoietic system. Following the laboratory a lecture and discussion emphasizes the primary lymphoid organs: bone marrow and the thymus. A dissection of a rat is performed so that students can observe the secondary lymphoid organs and their location in the body (i.e., lymph nodes, spleen, and Peyer's patches).

Day 2: The second laboratory exercise is integrated with the lecture and discussion section using the Gel Diffusion Technique to demonstrate antigen-antibody reactions.

Day 3: The third laboratory exercise introduces students to the Enzyme-linked Immunosorbent Assay (ELISA) which is a test used in commercial blood banks, plasma centers, and public health clinics to screen blood for antibodies to HIV.

3. Cellular and Molecular Biology:

Objectives:

The Cellular and Molecular Biology mini-course consists of a series of laboratory experiments using techniques that are fundamental to all biomedical molecular research. Students gain an appreciation for how these same techniques are used at the New York State Health Department Wadsworth Laboratories to conduct research on the pathogenesis and diagnosis of HIV infection. The experiments lead to the generation of new recombinant DNA molecules consisting of portions of the DNA fragment found in a previously-existing DNA vehicle and now contained within a new cloning vehicle. The recombinant DNA clone that is used as a substrate for the subcloning experiment is pGLO which contains a gene of interest, GFP-araC. GFP (Green Fluorescent Protein) encodes a protein originally found in the sea jellyfish *Aequorea victoria*, and allows the jellyfish to fluoresce and glow in the dark. The goal is to insert this gene into a recipient cloning vehicle called pBluescript. Expression of the GFP gene, detected as bright green fluorescence under UV light, is controlled by the *araC* gene, which is induced by growing the *E. coli* containing the plasmid in the presence of the sugar arabinose.

Implementation:

The class is divided into teams of two students each. The first goal is to digest pGLO and recipient cloning plasmid called pBluescript with designated specialized endonucleases called restriction enzymes which recognize and cleave DNA only at specific palindromic sequences. The overall experimental idea is that only specific combinations of restriction enzymes will likely generate a DNA fragment large enough to contain both the *GFP* and *araC* genes (these are called "insert") to be subcloned into vector pBluescript. After digestion, the enzyme called DNA Ligase is used is used to join or ligate DNA with compatible ends created by digestion with restriction enzymes.

When the compatible ends from two different DNA molecules are joined, a new recombinant DNA molecule is generated. Once ligated into pBluescript, the new recombinant plasmid DNA must be taken up by a host cell, *E.coli*, so that it can then be amplified using the host cellular machinery in a process called bacterial transformation. In these cells, the products of the recombinant DNA experiment can be replicated independently of the genomic DNA of the host, using the cellular "machinery" of the host to do the work. In the presence of arabinose, a sugar substrate necessary to activate GFP-araC expression, growing cells containing the recombinant DNA will fluoresce green when viewed under UV light.

The three-day laboratory schedule:

Day 1: Student pairs perform (a) plasmid DNA isolation of pGLO, (b) restriction enzyme digest of the isolated pGLO DNA in preparation for ligation into recipient plasmid pBluescript, and (c) enzymatic ligation of digested pGLO DNA and pBluescript.

Day 2: Ligation product is transformed into competent *E. Coli* cells for production and amplification of recombinant DNA. Transformed *E-coli* cells are grown overnight in bacterial culture plates in presence of sugar substrate.

Day 3: Transformants are observed using UV light for both positively and negatively-expressing colonies.

B. Educational Field Trips: The three field trips not only allow students to observe ways in which what they are learning in the classroom and laboratory applies in real work settings, but also expose them to a myriad career opportunities in science, engineering, and health care fields. In conjunction with the Computer Technology segment, students tour the GECRD Center where they view cutting edge medical imaging technologies. The second trip consists of a visit to Double H Hole in the Woods Ranch, a camp for chronically ill children in Lake Luzerne, NY, where students have the opportunity to see children actively participating in typical camp activities and to interact with health care professionals. The third trip is to the New York State Health Department Wadsworth Laboratories where students learn about AIDS research and testing procedures. At all sites staff speak about health-related professions and their own career paths.

C. On-Campus Presentations by Guest Speakers: Each year guest speakers are invited to speak to students over lunch or dinner. In the past these have included a well-known African-American engineer from the GECRD Center; a family affected by HIV/AIDS, a pediatrician specializing in infectious disease, and a psychology professor addressing gender and racial bias in the health care system.

V. Assignments and Evaluation of Student Performance

Within a month after the conclusion of the program a final mailing is sent to each student with all of his/her graded material and a statistical summary showing academic performance relative to that of other students. These include:

A. *Quizzes*: In each of the three mini-courses, the professor gives and then grades a 40-minute in-class quiz.

B. *Research Paper*: These are 5-6 pages in length and are written in teams of two. Students are given a list of possible AIDS-related topics from which to choose but have the option of selecting their own topic. The first draft is submitted at the beginning of the second week for review by a faculty member who then meets with the team to make suggestions for the final draft. The completed paper, which is submitted on the last day of the program, is graded by the same faculty member.

C. *Oral Presentation*: On the last day of the program, each team gives a formal oral presentation which typically use a variety of techniques such as PowerPoint, overheads, and role-playing. These presentations are peer reviewed with results tabulated by faculty and counselors and shared with the students.

D. *Reflection paper*: This is a two page individually written paper which includes a personal assessment of what the student has gained by participating in the workshop. Students are asked to summarize their experiences by describing what they learned, what was new to them, what they liked and disliked, and what they enjoyed most. Reflection papers are graded by the director and coordinator of the workshop.

VI. Program Assessment

All aspects of the workshop are evaluated each year by faculty, counselors, and students. At the end of the workshop, students are asked to complete an evaluation form which asks them to rate each of the program components; to make comments about their college experiences, staff members, the length of the workshop, and the stipend which they receive to participate; and to make suggestions for improving the workshop for future students. We take these evaluations as well as comments made in their reflection papers very seriously.

The program is by no means static. Various aspects of the program are discussed at each of our regular staff meetings, and, on the final day of the workshop, the entire staff meets for an intensive debriefing session as plans for the next summer are begun. Several additions and improvements have resulted from these discussions, among them: the addition of a computer technology module; the addition of an administrative student counselor to assist the coordinator before and during the workshop; the institution of a formal application and interview process for recruiting student counselors; the introduction of a unifying theme (HIV/AIDS); formal interviews with our admissions staff; faculty review of the first drafts of research papers; and formal presentation of papers using PowerPoint.

VII. Use of Program as a Recruiting Tool for Union

Near the beginning of the 12-day workshop, representatives from our Admissions Office and Career Development Center speak with the group about the admissions and interviewing process. Students are then offered individual interviews with an admissions officer. Students are also encouraged to speak with faculty in fields of interest to them and are given the opportunity to speak with the Health Professions Counselor (also the workshop coordinator) who has

subsequently written letters of recommendation for several of them to support their applications to Union. In the fall, previous participants who are still in high school are invited to a reunion which is held in conjunction with an Admissions open house. Included with the invitation is a Union College application with a fee waiver. Students attend a reunion dinner with SSW faculty, counselors, and previous participants who are current Union students; spend the night with a student host; and then attend admissions programs and classes the following day. We maintain close personal contact with all of the students (via phone, e-mail, or U.S. mail) prior to and during the workshop, and with many of the students following the workshop.

VIII. Program Funding

For the first three years, the SSW was funded as part of a grant from the Howard Hughes Medical Institute. For the past two years it has received full support from the College, although we continue to seek funding from both public and private sources.

IX. Conclusion

Over the past five years, 113 students have participated in the SSW. Of these 71 (63%) were females, which reflects an overrepresentation of females in our applicant pool. We have yet to determine why this is the case.

It is clear from the students' evaluations and reflection papers that they found the workshop to be both stimulating and enjoyable. They were favorably impressed with all aspects of the workshop, including the staff, the class and lab work, the field trips, the recreational activities, and interaction with other students. Comments from some of the July 2000 workshop participants are included in the appendix. Most have said that the workshop is either the right length or not long enough, and only a small minority said that the stipend we offered for their participation was a major factor in deciding to participate.

When students are asked on their applications about future career options, they typically express interest in a variety of professions, including medicine, nursing, physical therapy, biomedical research, engineering, and computer science. For the past two summers we have asked students again about their career interests at the end of the workshop. We have noted an increase in the numbers of students mentioning medicine, research and engineering/computer science; we attribute this to the students' exposure to these disciplines in the classroom/laboratory as well as the emphasis on careers during the educational field trips.

While not explicitly stated among the goals of the workshop, our desire has always been to expose high school students to the best of what college--specifically Union College--has to offer. We are pleased that 12 former SSW participants (one senior, one junior, five sophomores, and five freshman) are now Union students; all are successfully engaged in both academic and extracurricular life at the college. For example, the senior served for two years as a counselor in our program, two of the sophomores served as counselors at Double H last summer, and one of the freshmen is enrolled in our eight-year Leadership in Medicine program with Albany Medical College. Interestingly, when asked whether they would be at Union had it not been for their participation in the SSW, the overwhelming majority answered in the negative. We have noted that as our recruiting efforts have intensified, more and more former participants are applying to

Union. Eight of the students currently enrolled represent one third of the students who attended the 1998 workshop. We are hopeful that this trend will continue.

While our workshop is focused on the biological sciences and targets minorities, the model which we have described could easily be adapted for other institutions, disciplines, and target populations. For example, a similar program could become an effective tool for recruiting women to engineering programs. In fact, several programs designed to interest girls in science and engineering were described at the 2000 ASEE Conference^{4,5,6}.

Union's intensive Summer Science Workshop has been very successful in its first five years. It has identified talented and motivated students, provided them with a college-level, academically rigorous experience, and contributed to their determination to attend college to begin preparation for careers in the sciences or health professions. Minorities continue to be seriously underrepresented in these careers and the SSW is one important way Union is working to address this problem.

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KAREN WILLIAMS

Karen Williams received a B.A. in Chemistry from Russell Sage College, an M.S. in Pharmacology from the University of Michigan, and a Ph.D. in Life Sciences and Systems from Union College. For nearly 30 years she has taught for the Biology Department at Union where she also serves as the undergraduate health professions counselor. For the past five years she has coordinated the Summer Science Workshop for high school students from minority groups underrepresented in the science and health professions.

JAMES HEDRICK

James Hedrick received a B.S. and M.S. in Electrical Engineering from Union College. He has taught both electrical engineering and computer science for the past five years in the EE/CS department at Union College. In addition to teaching, he has recently been appointed to the position of Associate Director of the Union College Academic Opportunity Program. He developed and has taught the technology mini-course in the Summer Science Workshop for the past four years.

Appendix

Comments from Students' Reflection Papers--July, 2000

"I think the Summer Science Workshop is an excellent program. I can't think of a way to make it better except to extend it for a longer amount of time. This is definitely an experience I will never forget."

"The Summer Science Workshop was a fulfilling experience. It lived up to my expectations of an intense educational workshop, and a fun experience as well. More importantly, I had a chance to get to know myself through the experience. I never thought a two-week workshop could be so enriching."

"These two weeks have flown by. I have learned so many life lessons about college and the whole college experience. The program is an excellent preview of what I am going to have to face two years from now when I go to college."

"I have never learned so much in two weeks. The classes I took will certainly help me when I take A.P. Biology and other courses. The work was very challenging but you had the support of counselors, teachers, and friends to push you right along. I don't feel that anybody's questions went unanswered. They were so enthusiastic and well informed. The program was very strong in academics yet also managed to balance academics with fun and enjoyment."

"Coming to Union College helped me to realize that many career opportunities are available to us in the science field. Oftentimes we are not exposed to career options we have and only consider the most common ones. When we went to GE laboratories I found out about many careers I didn't even know existed. For example the scientists at the visualization lab were doing new projects with MRIs, which were really interesting."

"I had my first interview here at Union College. This new experience has helped me understand how a college works and what to expect in future college interviews. I plan to use Union College as one of my choices for a liberal arts college"

"One of the features that I like about the camp [Double H] was that the nurses went to the children and the children didn't have to leave what they were doing because of their medication. Another is that children who could not walk were allowed to fly in the ropes course. Debbie, a mother of three HIV positive kids, spoke to us about her experience with Double H. She said that they allowed [one son], who is healthy, to go to the program with his brothers proving that Double H is committed to helping children in any way possible. From everything I have learned at this camp I have decided I would like to work there for a summer."

"The program was interesting in that it opened my eyes to what college life was like. The program showed me that I am not exactly ready to go into college. I still have some growing up and disciplining to do in my life. Waking up early in the morning to go to lecture was hard for me, since I was growing accustomed to waking up at twelve in the afternoon."

"The things that I would want other students to know about this program are 1) this program really

helps when you are not sure if you want to major in a science. It lets you know what you are interested in and if you are up to the challenge. 2) This program brings people together that would otherwise not have met. You begin new friendships, which can last a lifetime. 3) This program also gives you the experience of college life and lets you see if you are capable of surviving in this type of world.”

“I feel that I have grown more as a person intellectually, emotionally and physically in these past two weeks. These weeks weren’t filled with only readings, papers, and classes. They were filled with laughs, new people and best of all fun.”

“Participating in the Summer Science Workshop has been a really great experience for me. The program was tough, especially for me who is from Haiti and speaks French as a native language. I am not scared of speaking English anymore because of my accent or because I think I do not really know how. What I appreciated the most was that people in this program did not care where you were from but they just accepted you for who you are.”

Fig. 1
2000 SUMMER SCIENCE WORKSHOP, Course and Field Trip Schedule

Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.	Sat.
9 Check-in (2:00-4:00 PM) 5:00 PM Dinner (Campus Ctr.) 6:00 PM Campus tour 7:00 PM--	10 8:30-11:30 AM Bailey Hall 106 Introduction to Immunology	11 8:30-11:30 AM Immunology	12 8:30-11:30 AM Immunology	13 8:30 AM IMMUNOLOGY QUIZ 9:00 AM Olin 102 Introduction to Computer Technology	14 8:30-11:30 AM Computer Technology 9:00 -10:30 AM Field trip to GE Research & Development Center	15 Recreational field trip (9:00 AM-4:00 PM)

Reception Campus Ctr.-- 3rd Floor	1:30-4:00 PM: Immunology 4:00 PM CDC admissions/interviewing presentation Library orientation 7:00 PM: Dorm MANDATORY Safety Presentation	1:30-4:00 PM: Immunology 5:00-10:00 PM Recreational Activity	1:30-4:00 PM: Immunology 5:00 PM CC 409 Presentation by Dr. Martha Lepow and guests (dinnertime) 7:00 PM Old Chapel Open Rehearsal- - Adirondack Baroque Consort	1:30-4:00 PM: Computer Technology 5:00-9:00 PM Dinner at Tobiessen's	1:30-4:00 PM: Computer Technology 4:30-9:30 PM Recreational Activity	
16 1:00-4:00 PM: Double H Hole in the Woods Ranch	17 8:30-11:30 AM Bailey Hall 106 Introduction to Cell & Molecular Biology 1:30-4:00 PM: Cell & Molecular Biology	18 FIRST DRAFT OF HIV/AIDS PAPER DUE 8:30-11:30 AM Cell & Molecular Biology Noon CC 409 Presentation by Prof. Carol Weisse 1:30-4:00 PM: Cell & Molecular Biology 4:30-7:00 PM: Recreational Activity	19 8:30-11:30 AM Cell & Molecular Biology 1:30-4:00 PM: Cell & Molecular Biology CELL BIO. QUIZ 4:00 PM: Meet with faculty to discuss papers	20 9:00 AM-12:00 PM Field trip to NYS Health Dept. Lab Afternoon: Finish HIV/AIDS and Reflection Papers	21 FINAL DRAFT OF HIV/AIDS PAPER DUE; REFLECTION PAPER DUE Morning-- Preparation for Presentations 11:00 AM Lunch 12:00 PM Student Presentations Olin 307 5:00 PM Farewell Dinner Evening or Sat. AM Depart for Home	22 Home!!