



BIOLOGY STUDENT HANDBOOK

DEPARTMENT OF NATURAL
SCIENCES AND MATHEMATICS

WEST LIBERTY STATE COLLEGE



8-1-2006

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Introduction

Welcome to the Biology program within the Department of Natural Sciences and Mathematics at West Liberty! In choosing Biology as a major you have begun a process of learning that will allow you to see the natural world in a multitude of ways. Be prepared though- the Biology program at West Liberty is challenging even to those who found high school science relatively easy. One of our main goals is to prepare you for life beyond West Liberty- be it a job or further education in a professional or graduate program. In order to do that, you must be educated in a demanding forum that creates an atmosphere of camaraderie and collegiate discovery. As faculty, our job is to challenge and inspire you to critically think and apply the skills you are acquiring as a means of mastering the material in your curriculum. As a student, you also have a job- studying and comprehending the material and techniques. If you are not committed to your job, success at West Liberty may be elusive.

After your first two semesters at West Liberty, take a moment to evaluate your performance critically and honestly. How are your scores? Have you really put forth the effort required to succeed in your coursework and within the Biology program? Do you take the time to ask questions in class and/or meet with your professors if you have questions outside the traditional classroom? Are you enjoying the challenges presented with the Biology program at West Liberty? Believe it or not, the program only gets more demanding after the first year- if you are miserable, you may want to consider changes. Speak with your advisor and ask their help in evaluating your performance and suggesting options.

Biology offers a multitude of professional opportunities. As a Biology major, you may opt to attend a professional school for medicine, veterinary medicine, dentistry, pharmacy, or optometry. For each of these choices, your performance at West Liberty must be strong. Additionally, all of these choices will require extra-curricular involvement and service activities that support your choice of future career field. Graduate school is another popular option for Biology majors. Whether you choose a Master's program or Doctoral, you will use your entire background to succeed in these settings. While emphasis on performance is slightly lower than professional school, graduate programs are interested in well-rounded students that have already shown interest in research and typically have taken research internship opportunities during their collegiate career. Choosing your field of study/research for graduate school is a difficult task. It requires

you to explore a variety of fields and schools. You must look at not only the graduate program, but also the faculty involved with that program and their research opportunities. It is also a good idea to make contact with faculty members at institutions of interest to determine if they are accepting students into their laboratory. In other words you must be proactive for future success. Graduate school, while typically not the high profile option, offers many advantages- tuition waivers, stipends for living and medical insurance. In addition to the above pure science options, the Biology program at West Liberty also has a Bachelor's of Arts option in Biology Education, 9-credit. In conjunction with the Education Department, this option prepares you for certification to teach biology at public or private high school. One advantage to the Biology Education option is that you are readily employable as soon as you graduate from West Liberty. You can also consider further education in the form of a Master's degree or Doctoral. Provided you utilize your curriculum carefully, you can find employment as a laboratory technician. Many of these opportunities require that you have had research experience, hence, a research internship becomes vital. Your advisor can help you with these choices, do not be afraid to discuss your options with them.

The faculty and staff in the Biology program at West Liberty are a diverse group of individuals with a wide variety of interests. The faculty and staff profiles will provide you with basic information on each person, their educational background, and areas of expertise. Initially you will be assigned an advisor through the registrar's office; you may keep that advisor or switch to another advisor within the program as you become acquainted with the faculty.

As many students within the Biology program will continue their education in a wide variety of programs after their collegiate graduation, attention to the order in which various classes are taken is important. For graduate and professional school entrance examinations, certain course material is included on the assessment devices; failure to enroll in those courses and master the material prior to taking entrance examinations will almost certainly ensure performance scores well below acceptable levels. Please refer to the curriculum section for coursework requirements and suggested sequencing. Your advisor can also help you decide when to take courses to avoid conflicts that might cause problems with scheduling.

As a Biology major and in order to remain a Biology major, you must understand that you have chosen one of the more difficult courses of study. You

will know students in other fields who do not spend as much time as you do in the classroom or laboratory and in studying. This should not discourage you, rather, it should provide you with an enjoyable challenge to succeed in a field in which many people are not capable. Also, you should find enjoyment in the courses within your field. There are always courses you enjoy more than others, but overall you should be excited about the learning process in Biology and look forward to each new level. The Biology faculty and staff are here to help, advise and work with you along the way. Good luck with your chosen field of study!

Timetable for Basic Coursework

Basic coursework- the core courses- should be completed by the end of your sophomore year. If you desire to spread the coursework out over more semesters, look into summer school programs. One of the quickest ways to ensure an undergraduate education that takes over four years is to not complete the core coursework in the expected timeframe. Course conflicts arise that should have been avoided and these conflicts tend to delay graduation as many upper level courses are offered one semester/academic year only. Your advisor will help you avoid these problems when scheduling, but keep in mind your schedule/course load is your responsibility. Be proactive, learn what you need to take and when in order to graduate on time. Your West Liberty catalog contains valuable information on courses required for graduation- use it! Additionally, not taking the core courses and courses required for entrance examinations to professional and graduate schools will interfere substantially with your ability to gain acceptance- no matter your grades or extra-curriculars.

As a general rule, within the first two years of undergraduate work in the Biology program, you should complete:

- Ø BIO 124/125 Biological Principles & lab
- Ø BIO 200 Biology of Plants (Botany) & lab
- Ø BIO 202 Biology of Animals (Zoology) & lab
- Ø BIO 220 Scientific Methodologies*
- Ø CHEM 110/111 General Chemistry I & lab
- Ø CHEM 112/113 General Chemistry II & lab
- Ø CHEM 340/341 Organic Chemistry I & lab
- Ø CHEM 342/343 Organic Chemistry II & lab
- Ø PHYS 101/110 Physics I & lab
- Ø PHYS 102/111 Physics II & lab
- Ø MATH 145 Precalculus Algebra
- Ø MATH 160 Statistics

Remember these are courses within the major, general studies course requirements also need to be fulfilled for graduation. If you are not considering professional school where the entrance exam includes physics and/or organic chemistry, you may be able to take these your junior year- however you must be certain this will not affect your graduation. If you are considering professional

school, but are worried about course load, you may be able to take physics over the summer- CAUTION- summer schedules fluctuate, just because it was offered one summer does not mean the course will be offered each summer- check first! You may not take physics during the senior year as it conflicts with the Senior Biology Capstone course- required of all Biology students within the last two semesters of study. If you are interested in Pharmacy school, you must take calculus as an additional math/entrance examination requirement.

A typical schedule for the first two years in the Biology program at West Liberty may look as follows:

First Semester: BIO 124/125
CHEM 110/111
MATH 145

Second Semester: BIO 200 or 202
BIO 220*
CHEM 112/113
MATH 160

Third Semester: BIO 200 or 202 or 325 (Microbiology)
CHEM 340/341
PHYS 101/110

Fourth Semester: BIO 200 or 202
BIO 220*
CHEM 342/343
PHYS 102/111

Each of these schedules contains approximately 11-13 credit hours of coursework. One to two additional courses per semester focusing on general studies requirements should be added. The addition of BIO 325 as a choice in the third semester (fall) is due to several course prerequisites that require BIO 325. As BIO 325 is only offered fall term it is an option. Notice that calculus is not in this example- options do exist, the best advice is to work closely with your advisor.

*BIO 220 Scientific Methodologies course will be added to the core curriculum for Biology starting in the Fall term 2007-2008.

Biology Curriculum (2005-2007)

The Biology curriculum for 2005-2007 is arranged into a track system to allow flexibility in the student's curriculum. The tracks, General Biology, Pre-professional, Microbiology, and Biotechnology, are arranged into requirements for the track with a minor and requirements for the track without a minor. The same basic coursework applies to each form, the no minor option requires 5-7 additional hours of biology coursework at the 300-400 level and Biochemistry with lab. Beginning in 2006, a new Forensics track was approved that crosses the curriculum to provide an opportunity in the Forensics field. Typically a career in Forensics requires additional schooling beyond the undergraduate degree. The Biology program in conjunction with the Professional Education program also offers a B.A. degree in Biology Education 9-12. Below are the curriculum guidelines for each track/degree:

All Biology tracks, including BA B I O Ed 9-adult

Core Courses:

B I O 124/125 (Prin Bio; F/S)	___/___	PHYS 101/110 (Physics I; F)	___/___
B I O 200 (Botany; F/S)	___	PHYS 102/111 (Physics II; S)	___/___
B I O 202 (Zoology; F/S)	___	MATH 145 (Precal; F/S)	___
CHEM 110/111 (Chem I; F)	___/___	MATH 160 (Stats; F/S)	___
CHEM 112/113 (Chem II; S)	___/___		

General Biology with minor:

Track Specific Courses:

B I O 302 (Anat I; F/S)	___	B I O 460 (Molec Bio; F)	___
B I O 325 (Micro; F)	___	B I O 480 (Capstone; S)	___
B I O 401 (Genetics; F)	___	B I O 300-400 (electives, 3h)	___
B I O 404 (Ecology; S)	___		

Additional Requirements:

CHEM 340/341 (Organic I; F)	___/___	CHEM 342/343 (Organic II; S)	___/___
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No Minor Option:

Increase B I O 300-400 level electives to 8 hours	___
CHEM 352/353 (Biochem + lab; S)	___

Pre-Professional with minor:

Track Specific Courses:

B I O 302 (Anat I; F/S)	___	B I O 432 (Histo;S)	___
B I O 325 (Micro; F)	___	B I O 460 (Molec Bio; F)	___
B I O 401 (Genetics; F)	___	B I O 479 (I ntern; 1-3h)	___
B I O 404 (Ecology; S)	___	B I O 480 (Capstone; S)	___
Or		B I O 300-400 (electives; 0-2h*)	___

Additional Requirements:

CHEM 340/341 (OChem I; F) ___/___ CHEM 342/343 (OChem II; S)___/___

CHEM 352 (Biochem; S) ___

No Minor Option:

Increase BIO 300-400 level electives from 0-2 to 5-7h* ___

CHEM 353 (Biochem lab; S) ___

*Number of BIO 300-400 elective hours vary dependent on Internship hours earned

Microbiology with minor:

Track Specific Courses:

BIO 325 (Micro; F) ___

BIO 460 (Molec Bio; F)___

BIO 480 (Capstone; S)___

Restricted Electives- need 15h:

BIO 220 (Sci. Methods; S) ___(1h)

BIO 306 (Biotech I; F) ___(3h)

BIO 317 (Immuno; S) ___(3h)

BIO 321 (Biotech II; S) ___(3h)

BIO 329 (Applied; ?) ___(4h)

BIO 356/357 (Parasit; ?) ___(4h)

BIO 421 (Epidemi; ?) ___(3h)

BIO 432 (Histo; S) ___(4h)

BIO 462 (Path; ?) ___(3h)

BIO 465 (Virology; ?) ___(3h)

BIO 479 (Intern; 1-3h) ___

Additional Requirements:

CHEM 340/341 (OChem; F)___/___

CHEM 342/343 (OChem; S)___/___

CHEM 352 (Biochem; S)___

No Minor Option:

Add 5 hours of non-restricted BIO 300-400 level courses ___

CHEM 353 (Biochem lab; S) ___

Biotechnology with minor:

Track Specific Courses:

BIO 220 (Sci Methods; S) ___

BIO 306 (Biotech I; F) ___

BIO 307 (Plant Tissue; F) ___

BIO 308 (Animal Tissue; S) ___

BIO 321 (Biotech II; S) ___

BIO 467 (Intern; F/S/Su) ___

BIO 480 (Capstone; S) ___

Restricted Electives- need 9h:

BIO 302 (Anat I; F/S) ___ (4h)

BIO 317 (Immunol; S) ___ (3h)

BIO 320 (Curr Topics; ?) ___ (1h)

BIO 325 (Micro; F) ___ (4h)

BIO 401 (Genetics; F) ___ (4h)

BIO 404 (Ecology; S) ___ (4h)

BIO 432 (Histo; S) ___ (4h)

BIO 460 (Molec Bio; F) ___ (4h)

BIO 468 (Spec Issues; ?) ___ (3h)

Additional Requirements:

CHEM 340/341 (OChem I; F) ___/___

CHEM 342/343 (OChem II; S)___/___

CHEM 352 (Biochem; S) ___

No Minor Option:

Add 5h of non-restricted BIO 300-400 level electives

CHEM 353 (Biochem lab; S) _____

Forensics*:

Track Specific Courses:

BIO 212 (Anat 1; F) ___	CHEM 340/341 (OChem I + lab; F) ___
BIO 214 (Anat 2; S) ___	CHEM 342/343 (OChem II + lab; S) ___
BIO 220 (Sci Meth; S)___	CJ 152 (Intro to CJ) ___
BIO 306 (Biotech I; F)___	CJ 236 (Crim I) ___
BIO 321 (Biotech II; S)___	CJ 303 (Crim Law) ___
BIO 322 (Crime Scene)___	CJ 482 (Crim Invest) ___
BIO 481 (Capstone; S) ___	CLS 340 (Clin Biochem I) ___
	CLS 342 (Clin Biochem II) ___

Course conflict: Physics II cannot be taken in the final Spring term- conflicts with BIO 480 Capstone.

128 credit hours are required to graduate from West Liberty with a B.S.; 40 of those hours must be 300-400 level courses.

Biology Education 9-adult:

Required Courses in addition to Core Courses⁴:

BIO 325 (Micro; S) ___	BIO 300-400 (Elective; 3-4h) ___
BIO 302 (Anat I; F/S) ___	PHYS 150 (Sci & Tech; S) ___
BIO 401 (Genetics; F) ___	PHYS 320 (Demos; F) ___
BIO 404 (Ecology; S) ___	PHYS 360 (Geology; F) ___
BIO 460 (Molec Bio; F) ___	Or
BIO 480 (Capstone; S) ___	PHYS 370 (Astron; S) ___

Education Courses:

EDUC 100 (Intro; F/S) ¹ ___	EDUC 301 (Ed Psych; F/S) ¹ ___
EDUC 201 (Devel; F/S) ___	EDUC 392 (Models; F/S/Su) ^{1,2} ___
EDUC 207 (Found; F/S) ¹ ___	EDUC 362 (C & M; S) ^{1,2} ___
EDUC 290 (Instr. Tech; F/S) ___	SPED 241 (Excep.; F/S) ___
SPED 320 (Spec Learn Needs) ___	READ 302 (Content Instruct) ___

Professional Education Block- Student Teaching³ (EDUC 409, 464, 470, 482)

¹requires out of class observation time

²requires Level I portfolio pass

³requires Level II portfolio pass

⁴require grade of C or better in all courses

The Biology Education 9-adult curriculum must be monitored by both a Biology faculty member and an Education faculty member. Each will advise the student regarding classes in their own specialization. The student is responsible for registering for the West Liberty Education listserv. This service provides timely announcements of pertinent information like scheduling of portfolio interviews and PRAXI S exam schedules.

The General Studies course requirements vary between the B.S. degree tracks (General Biology, Pre-professional, Microbiology, & Biotechnology) and the B.A. degree (Bio Ed 9-adult). Please refer to the correct chart for your degree. Within the General Studies requirement, each student must take one course from four selected areas, critical thinking(*), cultural diversity(+), international perspectives(●), and technology(#). Keep in mind there are other courses besides those listed below- they can be found in your West Liberty course catalogue.

General Studies for B.S. degree:

Communications (grade of C or better):	Social & Behavioral Sciences:
ENG 101*# (F/S) ___	HI S 103●, 104●, 210 or 211 ___
ENG 102*# (F/S) ___	(1 course from each of 3 areas below)
COM 101 (F/S) ___	GEO 205●, 206● ___
Fine Arts/Humanities:	POLS 101, 201, SS 100● ___
FA 101, ART 100, 140+, 340, 343+,	SOC 150+, 235+ ___
MUS 130+, 330●, 331, COM 203,	PSYC 201 ___
COM 211, 241+, 341 (1 course) ___	Wellness/Phys Ed:
Literature (1 course) ___	PE 101 or 102 (1-2 courses) ___
Phil, For Lang, or Rel (1 course)___	HE 250 or HE 253 ___
Business and Economics (1 course):	
ECON 101*, ECON 102*, GBUS 140* ___	

General Studies for B.A. Degree:

Communications (grade of C or better):	Social and Behavioral Sciences:
ENG 101 ___	(Choose 1 from EACH group)
ENG 102 ___	HI ST 103, 104, 210, 211 ___
COM 101 ___	GEO 205, 206 ___
Fine Arts/Humanities:	SS 100 ___
(Choose one from 2 groups below)	Wellness/Phys Ed:
ART 100, 140, 340, 341, 343 ___	Choose HE 253 (2h) or HE 250 (3h)___
COM 203, 211, 241, 341 ___	PE 101, 102 (take 2-3h)___
FA 101 ___	Restricted Electives- Choose 1:
MUS 130, 330, 331 ___	ECON 101, 102, GBUS 140, HI ST 103,
Literature (ENG prefix) ___	HI ST 104, POLS 101, 102, PSYC 201,
	SOC 150, 156, PHI L (any),
	FOR LANG (any) ___

Internships

Internships are an integral aspect of a Biology education at West Liberty. Routinely announcements for internships will be made both through the classroom format and during Biology club meetings. Additionally, internship program announcements will be posted outside Arnett 106. It is highly recommended that each student undertake an internship either between their sophomore and junior year or junior and senior years of study.

Internships are a valuable way to demonstrate to prospective graduate/professional schools or employers that you have initiative within your field of study and that you have gained applicable experience within your undergraduate curriculum. If you expect to graduate from West Liberty and be employable you must have experience in a laboratory- internships are the most prestigious means to gain that experience.

Internships may be performed for credit (BIO 479) or not. The choice is up to the student and advisor. In order to earn internship credit, 45 hours of internship work must be completed for one credit hour. Up to three credit hours may be earned for an internship. Typically a journal is required that outlines each day. Each entry must be verified by your supervisor wherever the internship is performed. That journal becomes the documentation for completion of your internship. Other requirements may be needed for each particular internship- your advisor (who is typically listed as the professor for the internship if the internship is completed outside West Liberty) will aid you in determining appropriate documentation. For internships within the institution, the professor with whom you worked will be listed as the instructor for the course.

Internships vary greatly dependent on the student's interests and internship availability. A number of programs exist that provide remuneration and travel monies for research internships across the country. Other internship opportunities are unpaid. In the past, students have shadowed a variety of professionals within their area of interest, interned at the Oglebay Good Zoo and/or Schrader Center, or performed research for a qualified institution or company. Research opportunities also exist at West Liberty- ask your advisor or a professor with whom you may like to work.

Whatever the case, an internship may be the difference between acceptance/employment at the close of your collegiate career. Do not be afraid to spend a summer away from the area in an internship program- these types of internships appear strongest on your record as you presumably competed with individuals from all over the country as well as from within that institution for that position. In other words, that institution noted some quality about you that stood out from the others- that in and of itself will bring you notice when you apply for future opportunities. Keep in mind you may find by performing an internship that what you thought interested you isn't the field you wish to pursue. While not typically advertised, that is an important aspect to an internship- better to determine over the course of a couple of months that you need to re-evaluate your plans than determine this after you have graduated and have started a new course of study in graduate or professional school.

Advising

Each student is assigned an advisor through the Registrar's office upon admission to West Liberty. Dependent on whether Biology was noted as a major, the advisor may or may not be within the Biology program. As soon as possible, the student should choose an advisor from within the program to assist them in planning their schedules. If your advisor is within the program and you are dissatisfied with their help or feel someone else may be better to help you, you may opt to choose a different advisor from the remaining faculty within the program. No matter the case, to select an advisor simply go to the Registrar's office, fill out and turn in the change of advisor form. It does not require any signatures from your old or new advisor. Please be specific with your choice and record not only the advisor's last name and title, but also the first name or first initial.

Each semester, roughly two weeks are set aside for pre-registration. During this time, each student is expected to schedule an appointment with their advisor to discuss course registration. Registration is an on-line process and requires a PIN available to you only through your advisor. Seniors may access the registration site first, then juniors, etc... Obviously, the goal is to ensure seniors do not get "closed out" of a class they need for graduation. However, if upperclassmen do not schedule during their initial period they may get closed out of a necessary class. The same is true for Elbin scholars, you must register early or you are subject to the same rules as everyone else.

When you meet with your advisor, be prepared. This is your collegiate future, not theirs. They are present to help you and make certain you are progressing toward your graduation goal, but your advisor is not ultimately responsible for your choices- so again, be proactive. Refer to the curriculum guides both in this handbook and in the college catalog to make certain you are choosing the appropriate courses in a timely manner. You should have with you at your meeting all the necessary scheduling materials plus a tentative schedule- not just for the current semester, but for the next semester as well. This precaution may help alleviate course conflicts by identifying them before they occur. If you are prepared for your advising session, not only will the session be efficient, you are actively taking part in your future at West Liberty.

Professional and Graduate School Entrance Examinations

Most professional schools and graduate schools require an entrance examination that provides a generalized look at each student's abilities compared to a national standard. These examinations are in addition to the required application for admittance. Dependent on your choice of future profession, you may be required to take the GRE (graduate school), MCAT (medical or osteopathic school), DAT (dental school), and/or PCAT (pharmacy school). Some professional schools do allow early admission provided required coursework is completed and individual is qualified for entrance to the program. In the case that early admission is sought, timelines for coursework and entrance examination will be shortened.

Typically students seeking entrance to professional and/or graduate school will take the requisite entrance examinations in the spring of their Junior year of college and preferably no later than early fall of their Senior year. As such, subject matter covered on each test should be completed prior to that time. Additionally, each student must prepare for the particular entrance examination in question. Time limitations and format of sections can pose major downfalls to adequate test scores if the student is unprepared. The Elbin Library has a variety of entrance examination preparation manuals available for student use. In addition, Kaplan courses are frequently offered in our general area and may prove helpful to the student preparing for these exams. The web also has multiple offerings available that may help the student prepare for their entrance examination; students are urged to use these resources and the resources available at testing websites.

Each type of entrance examination has slightly different formatting and skills requirements. The most general is the GRE for graduate school admission. The GRE is divided into 3 sections: Critical Thinking and Analytical Writing, Verbal Reasoning, and Quantitative Reasoning. The first section is designed to assess the student's ability to support ideas within a well-focused, coherent written discussion while utilizing the parameters of standard written English. The second section assesses how the student analyzes and evaluates written material, component parts of sentences and relationships between words and concepts. The third section approaches the student's ability to solve problems using basic concepts within arithmetic, algebra, geometry, and data analysis. The GRE is a general view of the student as it serves all graduate school programs, not just the sciences. Particular

graduate programs in the sciences may also require a specific subject test administered by the GRE in addition to the general examination. The student must refer to each graduate school program's admission requirements guide to determine which examinations to take. More information on the GRE, including a detailed breakdown of exam content and examples is available at www.ets.org.

The professional school examinations for the sciences tend to be the MCAT, the DAT, and the PCAT. The MCAT is the basic entrance examination for most allopathic and osteopathic schools, however, there are a few schools who do not require an entrance examination. The MCAT is offered only as a computer-based test (beginning August 2006) and is divided into four sections: Verbal Reasoning, Physical Science, Writing Sample, and Biological Science. Students should complete freshman biology, zoology, general chemistry, organic chemistry, and physics prior to the MCAT. For examples of each section of the MCAT and more general information, please refer to www.aamc.org/students/mcat/. The DAT, required by most dental schools, recommends the completion of biology, general chemistry and organic chemistry prior to testing. Additionally, it may be taken after the student has completed at least one full year of college coursework. Note that physics is not required for the DAT, however the DAT has a special section that deals with spatial relationships that may require extra effort in preparation. Similar to the MCAT, the DAT has four total sections: Survey of Natural Sciences (90 minute test), Perceptual Ability (60 minute test), Reading Comprehension (60 minute test), and Quantitative Reasoning (45 minute test). For more information, the student is referred to the examination website, www.ada.org/prof/ed/testing/dat/index.asp. The final professional test frequently required is the PCAT for pharmacy school admission. The PCAT is divided into six sections: Verbal Ability, Biology, Reading Comprehension, Quantitative Ability, Chemistry, and Writing. The Verbal ability section focuses on non-scientific word knowledge and usage. The Biology section requires general biology, microbiology, and anatomy/physiology coursework knowledge. The Reading Comprehension section assesses the student's ability to understand, analyze, and evaluate passages on science-related topics. In the Quantitative Ability section the student must utilize skills in algebra, geometry, probability and statistics, pre-calculus, and calculus to solve problems. Note that calculus is a basic admission requirement for Pharmacy school whereas for other professional and graduate schools, calculus may or may not be a requirement. For the Chemistry section, both general chemistry and organic chemistry are required. The final section, Writing, assesses the student's effective use of language conventions in a written essay;

the essay may be argumentative or problem-solving. For more information and samples, please visit <http://harcourtassessment.com/haiweb/Cultures/en-US/dotCom/PCATWEB.INFO.htm>.

On a cautionary note, these entrance exams do constitute an important part of your acceptance into a program. While great scores do not guarantee admission, poor scores almost always result in rejection. While each course at West Liberty provides you with the knowledge base for these entrance examinations, the burden to review that material prior to testing rests upon you as an individual. Additionally, practice tests are of utmost importance as they help prepare you for not only the format of the test, but the time restrictions involved. Failure to adequately prepare for the entrance examination is one of the quickest ways to ensure a difficult if not impossible application process.

The Interview Process

Today most professional schools and many graduate programs now require personal interviews as part of the application process. Interviews can be exceptionally stressful and your acceptance to the program may hinge on the impression you make during this process. Similar to entrance examinations, preparation is key. Before you interview, you should acquaint yourself with the school/program and the faculty, including any of their research interests. You should also be familiar with current events and topics that impact the field into which you are seeking admittance. The Biology program at West Liberty arranges mock interviews during the Fall term to help the student prepare for future interviews. Local professionals are invited to act as potential interviewers. After the interview, the student will receive feedback from their mock interview. This information can be used to strengthen the student's actual interviews. All students preparing for graduate level and/or professional programs are strongly advised to participate in the mock interview process.

Letters of Recommendation

Letters of recommendation are required by nearly all avenues available to a student post-graduation and even before (e.g. internships). You should ask professors who know you best when looking for candidates. In order to request letters of recommendation, certain guidelines should be followed:

- Ø Provide the professor with the purpose of the letter- graduate school admission versus summer internship opportunity AND the field or type of program. The more specific you are, the more specific the letter can be.
- Ø Ask the professor- letters of recommendation are a privilege not a right.
- Ø If you are applying to several programs, whenever possible try to have all the information at the time you ask for letters.
- Ø For each recommendation, supply the professor an addressed, stamped envelope so the recommendation can be mailed directly to the program or if necessary returned to you in a sealed and signed envelope. If the recommendation is to be completed via a website, be certain to ask the professor if he/she minds this forum.
- Ø Sometimes it is useful to give the professor a brief resume noting significant accomplishments, extra-curricular activities, and your goals.
- Ø Be certain to check back with your professor a few weeks later with a friendly "Hi, were you able to write those letters for me?" Little reminders are typically appreciated especially during busy times of the semester.
- Ø Try to give the professor adequate time to write and submit your recommendation. While not always possible, if you are planning to apply for a school or program advance warning to the professor can make the difference between a recommendation being on time or late.
- Ø Remember to follow-up with your professor. They are interested about the results of your application!

Biology Student Study

The Biology program at West Liberty has designated space for a Biology student study in Arnett Hall. The expanded study has food storage capabilities, a long table for studying or lunches, lounging couches and chairs, a TV, and computer access. Additionally, there are reference materials that may be used by any student in the Biology program. The study provides a comfortable and congenial atmosphere where students can gather to relax, eat and study. Advanced students are typically present and they can help provide insight and answer questions from less experienced students on a variety of topics, including "How do I study to pass so-and-so's class?!"

The student study is equipped with an electronic keypad lock for student access. If you are the last person to leave the study, please relock the door to protect any personal material left in the study. The Biology program, Department of Natural Sciences and Mathematics, School of Sciences and the College cannot take responsibility for the safety of personal items left in the study. Please keep the study clean and discard old food items regularly- remember this space is a privilege and belongs to all Biology students, please treat it correctly.

Biology Club

The West Liberty Biology Club is primarily a social club open to any student (not limited to Biology or even science students) of WLSC. Meetings of the club are every first and third Wednesday of the month at 12N in Arnett 202. Dr. Roger Seeber is the faculty advisor and officers are chosen each year from the student members. The Biology club holds several fundraisers each year including the Valentine's Day carnation sale and the annual plant sale. These fundraisers provide monies for social events including fall and spring picnics and bowling. Occasionally speakers are invited to the club meetings- especially when topics of high interest are involved. Internship and job opportunities are routinely presented to the members of the Biology club.

It is highly advisable that each Biology major join the club. Many pertinent announcements will be made within the club format that may be otherwise missed. Additionally, the club provides an outstanding opportunity to meet other students both within and outside of the major and to interact with them on a purely social level without the stress of tests. Most of the Biology faculty and staff also participate in the Biology club so not only is there an opportunity to meet other students, but also there is the opportunity to meet your instructors on a different level. Interacting with the faculty and staff in a relaxed, social atmosphere provides an excellent way for both parties to get to know each other better without the onus of the classroom.

To join the Biology club no special forms or notices are required. Additionally, the Biology club charges no dues of its members. Watch for signs as the first meeting of the year approaches and attend. If you cannot make the first meeting, the come to the second or third- there are no restrictions to joining. Elections of officers occur at the first meeting each academic year.

Chi Beta Phi

Chi Beta Phi is a national honorary scientific fraternity for students. The object of this organization is to promote interest in science and to give recognition to scholarly attainment in science. As a fraternity, members participate together in events of scientific interest and fellowship. Prominent among several outstanding features of the organization is the fact that activities of the fraternity are not restricted to any particular discipline of the scientific fields but reflect endeavors in all areas of science. Therefore, the novice student of science is exposed at a crucial time in his/her collegiate career to the many possibilities offered by different areas of scientific study, while the advanced student is afforded an opportunity to keep abreast of important advances in science outside of his/her specialized field of interest.

Chi Beta Phi membership can be any of three types: regular, associate, and honorary. The regular and honorary designations apply to those who have found acceptance into membership of an affiliated chapter. Associate membership can be conferred only by the National Chapter. A fraternity member may be an undergraduate student, a graduate student, alumnus of, or teacher in the institution in which the chapter is located. The person must show a marked interest in science. To be elected a student must have a scholastic average on all college courses and on all science courses taken prior to election of 3.0. Fraternity membership is for life and requires payment of only one national life membership fee. Chapter dues are regulated by the individual chapter. For more information see the West Liberty chapter advisor, Dr. Jarrett Aguilar.

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