

Engineering Handbook

Fall 2012

The faculty and staff of the Engineering Division are happy that you chose to come to Lafayette College. It is our goal to give you an excellent engineering education within a liberal arts college environment. We prepared this handbook to answer questions you might have concerning your education during the next four years. This handbook is an unofficial publication of Lafayette College's Engineering Division and is valid only for the class of 2016. Start here, but if you don't find the answer, talk to your adviser, professors, the staff, and/or me.

Also, please refer to the Division website for updated information.

<http://engineering.lafayette.edu/>

Sincerely,

Scott R. Hummel

Interim Jeffers Director of the Engineering Division

Table of Contents

| | |
|---|----|
| The First Year | 3 |
| Academic Adviser | 3 |
| Standard Course Sequence | 4 |
| FAQs..... | 4 |
| Time Management Suggestions | 6 |
| Study Skills..... | 7 |
| The Engineering Majors | 10 |
| Chemical Engineering..... | 10 |
| Civil Engineering..... | 10 |
| Electrical and Computer Engineering..... | 10 |
| Engineering [Studies]..... | 11 |
| Mechanical Engineering..... | 11 |
| International Studies and Engineering | 11 |
| Student Groups in Engineering..... | 12 |
| International Experiences for Engineering Students..... | 13 |
| Faculty-led Semester Abroad Program..... | 13 |
| Engineers Without Borders - Lafayette Chapter | 13 |
| Interim Program | 13 |
| International Studies and Engineering | 14 |
| International Experiences for Engineering Students..... | 14 |
| Advising Policy for B.S. Engineering Students Planning to Study Abroad Spring Semester Sophomore Year..... | 15 |
| Faculty-led Programs in Bremen and Madrid..... | 16 |
| Opportunities for Research Experience | 17 |
| Independent Study..... | 17 |
| Honors..... | 17 |
| EXCEL | 17 |
| Research Experiences for Undergraduates (REU)..... | 18 |
| Sources for Help | 18 |
| Academic Help | 18 |
| Non-Academic Help | 19 |
| Diversity and Inclusiveness Statement | 21 |

THE FIRST YEAR

ACADEMIC ADVISER

The faculty adviser guides students in their course of study, helps them assess their academic capabilities and progress, and directs them to other specialized resources when needed. An engineering professor is assigned as your academic adviser for the first year. When you declare your intention to pursue a specific engineering major in the spring of the first year, you will be assigned an adviser for your remaining three years; this adviser will be an engineering faculty member in your major.

When you meet with your adviser feel free to ask questions about:

- Majors and minors
- AP & IB credits
- Course sequences
- Social Science and Humanities courses
- Study abroad opportunities
- Research opportunities
- Internships/employment
- Graduate school
- Co-curricular activities such as student clubs etc.

STANDARD COURSE SEQUENCE

The standard course sequence for all engineering students during their first year is listed below. Some students will take ES101 in the spring semester and Physics (or alternate course) in the fall semester.

| Fall Semester | Spring Semester |
|-------------------------------------|---|
| FYS: First-Year Seminar | English 110: College Writing [or Social Science/Humanities] |
| ES 101: Introduction to Engineering | Math 162: Calculus II |
| Math 161: Calculus I | Phys 131: Mechanics |
| Chem 121: General Chemistry I | Science/Math Elective |

FAQs

1. How do I know if Math 161 is the right course for me?

Math 161 is the default math course for the fall semester of the first-year. If you have an AP score of 4 or 5 on the AB calculus test you earned credit for Math 161 and may enroll in Math 162 if you choose to do so. If you were unsure about this decision, the on-line placement exam you took in the summer before you started at Lafayette helped you decide the correct course to register for. The placement exam is also offered during orientation. If you have an AP score of 3, 4 or 5 on the BC calculus test, you earned credit for both Math 161 and Math 162 and may enroll in Math 263. Please speak with your academic adviser if you have additional questions about the most appropriate math course for you. Some students are advised to take Math 165 for extra preparation.

2. What do I do if I have AP credit in chemistry?

- If you have an AP chemistry score of 4 or 5 you earned credit for Chem 121 and Chem 122. There is also an on-line placement test that helped you decide if you should register for Chem 122. There are several options available for your fourth course in the fall semester and you should speak with your academic adviser to determine the best choice for you. Some of the common options include taking:
 - Another Chemistry course. Students planning to major in ChE, or the environmental side of CEE may elect to enroll in Chem 252: Environmental Chemistry (no lab). Students planning to major in ChE may wish to enroll in Chem 221: Organic Chemistry I (with lab). This is an aggressive option and should be reserved for students who are confident in both their analytical and laboratory skills in chemistry.
 - A course in a field in which you wish to minor. Some students with AP chemistry credit elect to take a course in a particular field of interest outside of engineering during their first semester. You should discuss the implications of this choice with your faculty adviser before proceeding.
- Physics 151 if you've been recommended by the Physics department (you would have received a letter during the summer). Alternately, if you have credit for Math 161, you may consider taking Physics 131: Mechanics.

3. Can I take a fifth course during my first semester at Lafayette?

- NO! (Sorry.) The only exceptions are a ROTC course, or a 1/4-credit music course.

4. Can I take a fifth course during my second semester at Lafayette?

- Yes! If your GPA during the fall semester meets the College's requirements (normally 3.5), you can petition to take a fifth course during the spring semester. After your first year, these petitions normally require a 3.2 GPA or higher. See your advisor for help in completing the petition and attaining the proper signatures.

5. What should I do if I have a problem with my schedule for fall?

- See your academic adviser, and then go to the drop/add session during Orientation.

TIME MANAGEMENT SUGGESTIONS

Whether you were an efficient worker, or practicing procrastinator in high school, good time management is a key element to a successful college career. Even if you were efficient in high school, college can be overwhelming - there seems to be so much extra time! Since most classes don't meet on a daily basis, it's easy to think your economics reading assignment can wait until later while you play a game of ultimate Frisbee instead. But, beware: if this keeps up, by the time your midterm rolls along, you'll have hundreds of pages of reading to catch up on. The following tips will help you minimize your stress level, and maximize your time for college fun.

10 Tips for Managing Your Time

Taken from <http://counselingcenter.lafayette.edu/promoting-healthy-behaviors/time-management/>

- Create a “Semester Calendar” outlining your academic assignments & other events
- Create a daily “To Do” list making sure you...
 - Set priorities & distinguish between what you “must do”, “should do” & “could do”
 - Break large tasks into manageable chunks
- Use your “waiting time” between classes, appointments & other activities
- Address issues with over-scheduling – Learn to say “no”
- Be aware of procrastination & distractibility – Monitor the time you spend emailing, IMing, talking on the phone...
- Become aware of your body’s rhythm & work with it
- Study difficult & boring tasks first when you’re less fatigued
- Take study breaks to keep from becoming bored or distracted – But make sure breaks remain short (e.g. 5 mins)

Taken from:

<http://campushealth.unc.edu/healthtopics/academic-success/avoiding-studying-traps.html>

1. "I Don't Know Where To Begin"

Take Control. Make a list of all the things you have to do. Break your workload down into manageable chunks. Prioritize! Schedule your time realistically. Don't skip classes near an exam -- you may miss a review session. Use that hour in between classes to review notes. Interrupt study time with planned study breaks. Begin studying early, with an hour or two per day, and slowly build as the exam approaches.

2. "I've Got So Much To Study . . . And So Little Time"

Preview. Survey your syllabus, reading material, and notes. Identify the most important topics emphasized, and areas still not understood. Previewing saves time, especially with non-fiction reading, by helping you organize and focus in on the main topics. Adapt this method to your own style and study material, but remember, previewing is not an effective substitute for reading.

3. "This Stuff Is So Dry, I Can't Even Stay Awake Reading It"

Attack! Get actively involved with the text as you read. Ask yourself, "What is important to remember about this section?" Take notes or underline key concepts. Discuss the material with others in your class. Study together. Stay on the offensive, especially with material that you don't find interesting, rather than reading passively and missing important points.

4. "I Read It. I Understand It. But I Just Can't Get It To Sink In"

Elaborate. We remember best the things that are most meaningful to us. As you are reading, try to elaborate upon new information with your own examples. Try to integrate what you're studying with what you already know. You will be able to remember new material better if you can link it to something that's already meaningful to you. Some techniques include:

Chunking. An effective way to simplify and make information more meaningful. For example, suppose you wanted to remember the colors in the visible spectrum (Red, Orange, Yellow, Green, Blue, Indigo, Violet); you would have to memorize seven "chunks" of information in order. But if you take the first letter of each color, you can spell the name "Roy G. Biv", and reduce the information to three "chunks".

Mnemonics. Any memory-assisting technique that helps us to associate new information with something familiar. For example, to remember a formula or equation, we may use letters of the alphabet to represent certain numbers. Then we can change an abstract formula into a more meaningful word or phrase, so we'll be able to remember it better. Sound-alike associations can be very effective, too, especially while trying to learn a new language. The key is to create your own links, then you won't forget them.

5. "I Guess I Understand It"

Test yourself. Make up questions about key sections in notes or reading. Keep in mind what the professor has stressed in the course. Examine the relationships between concepts and sections. Often, simply by changing section headings you can generate many effective questions. For example, a section entitled "Bystander Apathy" might be changed into questions such as: "What is bystander apathy?", "What are the causes of bystander apathy?", and "What are some examples of bystander apathy?"

6. "There's Too Much To Remember"

Organize. Information is recalled better if it is represented in an organized framework that will make retrieval more systematic. There are many techniques that can help you organize new information, including:

- Write chapter outlines or summaries; emphasize relationships between sections.
- Group information into categories or hierarchies, where possible.

Information Mapping. Draw up a matrix to organize and interrelate material. For example, if you were trying to understand the causes of World War I, you could make a chart listing all the major countries involved across the top, and then list the important issues and events down the side. Next, in the boxes in between, you could describe the impact each issue had on each country to help you understand these complex historical developments.

7. "I Knew It A Minute Ago"

Review. After reading a section, try to recall the information contained in it. Try answering the questions you made up for that section. If you cannot recall enough, re-read portions you had trouble remembering. The more time you spend studying, the more you tend to recall. Even after the point where information can be perfectly recalled, further study makes the material less likely to be forgotten entirely. In other words, you can't overstudy. However, how you organize and integrate new information is still more important than how much time you spend studying.

8. "But I Like To Study In Bed"

Context. Recall is better when study context (physical location, as well as mental, emotional, and physical state) are similar to the test context. The greater the similarity between the study setting and the test setting, the greater the likelihood that material studied will be recalled during the test.

9. "Cramming Before A Test Helps Keep It Fresh In My Mind"

Spacing. Start studying now. Keep studying as you go along. Begin with an hour or two a day about one week before the exam, and then increase study time as the exam approaches. Recall increases as study time gets spread out over time.

10. "I'm Gonna Stay Up All Night 'til I Get This"

Avoid Mental Exhaustion. Take short breaks often when studying. Before a test, have a rested mind. When you take a study break, and just before you go to sleep at night, don't think about academics. Relax and unwind, mentally and physically. Otherwise, your break won't refresh you and you'll find yourself lying awake at night. It's more important than ever to take care of yourself before an exam! Eat well, sleep, and get enough exercise.

THE ENGINEERING MAJORS

Lafayette offers B.S. degrees in four fields of engineering (Chemical, Civil, Electrical and Computer, and Mechanical Engineering), and a Bachelor of Arts degree in Engineering (offered by the Engineering Studies Program). You will be asked to state your intention to pursue one of these five degree programs during February/March of your first year in time for registration for the fall of your sophomore year.

CHEMICAL ENGINEERING

Chemical engineers discover new products and implement new production processes that are useful and economical. The profession has evolved from petroleum refining at the beginning of the last century to today's biotechnology, biomedical developments, and nanotechnology. With this major, students have the option of an integrated dual major with International Studies.

CIVIL ENGINEERING

"Civil engineering is about community service, development, and improvement. It involves the conception, planning, design, construction, and operation of facilities essential to modern life, ranging from transit systems to offshore structures to space satellites. Civil engineers are problem solvers, meeting the challenges of pollution, traffic congestion, drinking water and energy needs, urban redevelopment, and community planning." — American Society of Civil Engineers.

Our curriculum is designed to meet the demands of a 21st century civil engineer, including an option for students to integrate a dual major with International Studies. Civil engineering emphasizes a broad understanding of engineering principles for solving problems. Civil engineers design and construct bridges, buildings, dams, highways, airports, mass transit, harbors, water plants, pipelines, and waste treatment centers. They look for ways to manage hazardous materials, remediate contaminated areas, and protect natural waterways.

ELECTRICAL AND COMPUTER ENGINEERING

Electrical and computer engineers have contributed to some of the most remarkable technological advances of the last 60 years including the personal computer, the Internet, digital audio and video, and wireless communications. New technologies such as biotechnology and nanotechnology are promising to provide equally impressive contributions to technology and society. With this major, students have the option of an integrated dual major with International Studies.

ENGINEERING [STUDIES]

This program presents a distinctive opportunity to obtain a strong technical education within the context of a broad liberal arts curriculum, resulting in a bachelor of arts degree in Engineering [Studies] (not ABET-accredited). Engineering courses are combined with courses in the social sciences and humanities. The program is grounded in mathematics, natural sciences, and engineering science with upper-level courses drawn from traditional engineering disciplines, engineering management, and engineering and public policy. Students have great flexibility to double major in a variety of fields.

MECHANICAL ENGINEERING

Mechanical engineers design, develop, and manufacture artificial limbs, engines, sports equipment, power plants, automobiles, biomedical devices, and a wide variety of consumer items. They work in manufacturing, marketing, management, research, education, and system design and development. They also play a major role in the mechanical design and manufacture of products often thought of in connection with other branches of engineering, such as computers, chemical processing equipment, and aerospace structures. With this major, students have the option of an integrated dual major with International Studies.

INTERNATIONAL STUDIES AND ENGINEERING

Globalization of engineering and technology is increasing the number of attractive job opportunities in foreign countries for engineers with proficiency in a second language, and an understanding of foreign cultures. This program enables students to earn a B.S. degree in an engineering field and an additional A.B. degree in International Studies. In this program, you acquire proficiency in a chosen language and develop an in-depth understanding of the culture of a country or region where the language is spoken. You take international politics and international history courses, as well as others in the humanities and social sciences that relate to those particular countries or regions. The capstone experience is a total immersion in a foreign culture. Students either study, or work abroad in a country where their chosen language is spoken, typically during the summer before the senior year.

This option can be completed in the standard four years plus an additional summer.

STUDENT GROUPS IN ENGINEERING

| | |
|-------------------------|--|
| AIChE | American Institute of Chemical Engineers Contact: Professor Senra, senram@lafayette.edu |
| ASCE | American Society of Civil Engineers Contact: Professor Kurtz, kurtzs@lafayette.edu |
| ASME | American Society of Mechanical Engineers Contact: Professor Merz, merzr@lafayette.edu |
| EWB | Engineers Without Borders (open to all majors) Contact: Professor Raich, raicha@lafayette.edu |
| EWH | Engineers for World Health (open to all majors) Contact: Professor Yu, yuy@lafayette.edu |
| GBC | Green Building Club (open to all majors) Contact: Professor Veshosky, veshoskd@lafayette.edu |
| IEEE | Institute of Electrical and Electronics Engineers Contact: Professor Yu, yuy@lafayette.edu |
| Leonardo Society | Organization for students pursuing an Engineering Studies degree Contact: Professor Veshosky, veshoskd@lafayette.edu |
| MSE | Minority Scientists and Engineers (open to all majors) Contact: Professor Tavakoli, tavakoli@lafayette.edu |
| SEES | Society of Environmental Engineers and Scientists Contact: Professor Greenleaf, greenlje@lafayette.edu Professor Kney, kneya@lafayette.edu Professor Mylon, mylons@lafayette.edu |
| SWE | Society of Women Engineers (open to all majors) Contact: Professor Sanford Bernhardt, sanfordk@lafayette.edu |
| Tau Beta Pi | Engineering National Honor Society Contact: Professor Rosenbauer, rosenbau@lafayette.edu |
| ESAC | Engineering Student Advisory Council Student leaders of Lafayette engineering organizations Contact: Professor Hummel, hummels@lafayette.edu |

INTERNATIONAL EXPERIENCES FOR ENGINEERING STUDENTS

FACULTY-LED SEMESTER ABROAD PROGRAM

The faculty-led program enables B.S. engineering students to go abroad during the spring semester of their second year, and stay current with their required courses. Students take one, or two courses from the Lafayette faculty member, and additional courses at the University affiliate. A wide range of courses are available, including several in engineering. No prior knowledge of the local language is required; however students are encouraged to study the language before and during the semester abroad. Costs are similar to those for a semester on campus at Lafayette, and your financial aid applies. Look for the fall and spring information sessions. The current international locations are Bremen, Germany and Madrid, Spain. Guidelines are on pages 15-16 for the two programs. For more information, contact Gisella Gisolo, gisolog@lafayette.edu phone: (610) 330-5262.

ENGINEERS WITHOUT BORDERS - LAFAYETTE CHAPTER

EWB-LC is a multidisciplinary group dedicated to meeting the basic health needs of developing communities by applying sustainable and practical engineering solutions. Since the spring of 2003, the chapter has committed itself to establishing long-term relationships with communities, associations, and organizations in the Yoro District of Honduras. Several times a year, teams of students travel to Honduras for one to two weeks to implement projects they planned and designed in partnership with the communities. If interested, see the faculty adviser, Professor Raich raicha@lafayette.edu.

INTERIM PROGRAM

Students have the opportunity for intensive study-abroad experiences through the optional January, or May interim session. In recent years, Lafayette faculty have traveled with students to teach courses in Australia, China and Hong Kong, England, France, Germany, Guatemala, Hawaii, Ireland, Israel, Kenya and Tanzania, South America, Turkey, and the West Indies. While most courses are interdisciplinary with a broad emphasis on culture, some, such as The London Theatre are discipline specific. The cost for these courses includes tuition, airfare, room, and other expenses. Financial aid is available and registration is in the early fall (contact Financial Aid).

As part of the Interim program, Lafayette offers a course focused on the international aspects of the engineering profession. The 2009 course was based in Scandinavia and the 2011 course in Egypt. Students enroll as part of the Interim course registration every Fall semester.

Scheduled for Summer 2013 - EGRS 191: A Taste of Italian Engineering – for both non-engineers and engineers

Italy boasts rich feats of engineering prowess that will fascinate and inspire dreams of discovery and innovation for today's engineers and non-engineers alike. This 3 week course will unfold the wonders of Italian engineering ranging from the architectural engineering of the ancient Colosseum, to the process engineering of wine, olive oil, mozzarella cheese and pasta making to the mechanical engineering triumphs of Ferrari motor cars.

INTERNATIONAL STUDIES AND ENGINEERING

Globalization of engineering and technology is increasing the number of attractive job opportunities in foreign countries for engineers with proficiency in a second language and an understanding of foreign cultures. This program enables highly capable and motivated students to earn a B.S. degree in chemical, civil, electrical and computer, or mechanical engineering, and an additional A.B. degree in International Studies in four years plus an additional summer. If you are interested, please contact Professor Van Gulick vangulil@lafayette.edu.

INTERNATIONAL EXPERIENCES FOR ENGINEERING STUDENTS

Several Lafayette B.S. engineering students and many Engineering Studies students have taken advantage of Lafayette's semester-long study study-abroad programs (or off-campus programs) that are not led by Lafayette faculty. Students who wish to pursue these opportunities must work closely with their academic advisers to insure that the program will meet their degree requirements, and that they will remain on schedule for graduation. Locations that are popular for students include Italy, New Zealand, and Trinidad & Tobago though there are other options.

For more information, see the engineering division website at <http://engineering.lafayette.edu/international-programs/>

ADVISING POLICY FOR B.S. ENGINEERING STUDENTS PLANNING TO STUDY ABROAD SPRING SEMESTER SOPHOMORE YEAR

Last updated April 2011

[see <http://engineering.lafayette.edu/semester-study-abroad/> for the latest version]

- All students planning on going abroad must meet with their adviser in the spring (1st year) and fall (sophomore year) before they go abroad to review their course selections.
- For ABET accreditation, the B.S. Engineering curricula require that a student has a minimum of 9.5 credits of science and math courses combined, 14.25 credits of engineering courses, and a minimum of 38 total credits to graduate. Students must ensure that their academic plan will meet these requirements.
- For students studying at Bremen (Jacobs University) and Madrid (St. Louis University) faculty-led locations, all engineering courses and Math 264 will count as one Lafayette course credit; VaST courses offered abroad by Lafayette program directors will also count as one Lafayette course credit. However, St. Louis University is on a semester credit system so all other 3-semester hour courses will only count as 0.75 Lafayette course credits unless they include an extra semester hour for a laboratory.
- Students studying at Bremen are expected to take INDS German Culture and Civilization. This course counts as a Social Sciences course and can be used to satisfy the breadth requirement, but not the depth requirement.
- For questions about foreign language courses taken abroad, see the Head of Foreign Languages and Literatures, Professor Sidney Donnell.
- For all faculty-led and affiliated semester abroad programs, the grades transfer to Lafayette College.
- See the following pages for typical schedules for students opting for the faculty-led semester abroad programs in either Bremen or Madrid.
- The affiliated programs that typically offer engineering courses are listed on this page. Students are strongly encouraged to go to the websites for these programs to determine the credits associated with each course (links to these programs are available at <http://studyabroad.lafayette.edu/programs/approved-semester-programs/>). All 3-semester hour courses will count as 0.75 Lafayette course credits unless they include an extra semester hour for a laboratory. A course with an extra semester hour for a laboratory will typically count as one Lafayette course. Similar ratios apply for 2-semester hour courses etc.
 - [Frontiers Abroad] in New Zealand – Universities of Auckland and Canterbury
 - [Gonzaga University] Engineering in Florence Italy – provisionally approved as an affiliated program for evaluation
 - [Pacific Lutheran University] Trinidad @ University of the West Indies
 - Dresden Engineering (through Boston University)
 - Tel Aviv Engineering (through Boston University)

FACULTY-LED PROGRAMS IN BREMEN AND MADRID¹

| <i>Fall (at Lafayette College)</i> | <i>Spring at (Bremen or Madrid)</i> |
|------------------------------------|---|
| CEE² | |
| Math 263 | Differential Equations |
| ES 226 | VaST |
| CE 321 | Strength of Materials (Solid Mechanics) |
| CE 271 | Math/Science Elective |
| Social Science/Humanities Elective | Social Science/Humanities Elective |
| ChE³ | |
| Math 263 | Differential Equations |
| Chem 221 | VaST |
| ChE 211 | Technical Elective |
| ChE 222 | Social Science/Humanities Elective |
| ES Elective | Social Science/Humanities Elective |
| ECE⁴ | |
| Math 263 | Social Science/Humanities Elective |
| Phys 132 | Social Science/Humanities Elective |
| ECE 211 | Electric Circuit Analysis (Intro. to Electrical and Computer Engineering) |
| CS 104, 105, 106 | Discrete Structures (Discrete Mathematics) or a Math/Science elective |
| Social Science/Humanities Elective | Differential Equations |
| ME | |
| Math 263 | Differential Equations |
| ES 226 | VaST |
| Phys 133 | Strength of Materials (Solid Mechanics) |
| Social Science/Humanities Elective | Hum/SS (Bremen) Dynamics (Madrid) |
| ME 210 | Social Science/Humanities Elective |

¹ Assumes that students can take Differential Equations, Strength of Materials, VAST, Electric Circuit Analysis, and Discrete Structures (Discrete Mathematics) in Bremen and Madrid.

² CEE students who go abroad spring of sophomore year will need to take CE 341 during the spring of junior year.

³ ChE students must talk with their advisor to develop a plan for dealing with ChE 222, which is normally taken during the spring of sophomore year.

⁴ ECE students must talk with their advisor to develop a plan for dealing with ECE 212 Digital Circuits II.

OPPORTUNITIES FOR RESEARCH EXPERIENCE

INDEPENDENT STUDY

A student may initiate an independent study project through discussions with a faculty member. Independent study projects are selected based on the background and interests of the student. An outline of the proposed work is submitted for approval by the department head and the faculty member who serves as adviser. A final paper presenting the results of the work is required. A presentation to students and faculty may also be required. The student receives one course credit for an independent study project. Work in these courses will be graded in the usual way.

HONORS

Departmental honors are awarded for outstanding performance in writing a Senior Thesis. A sequence of two courses in the department is required. Students who hope to become candidates for departmental honors must register for the two courses beginning the first semester of their senior year, or, with the permission of the Academic Progress Committee, the second semester of their junior year. Their work in these courses will be supervised by a faculty member, and will be graded in the usual way. Candidates for honors must have and maintain cumulative (grade point) averages of 3.00 and averages of 3.20 in the honors department, and must fulfill such other requirements as may be established by the department (e.g., writing and presenting a progress report after the first semester).

EXCEL

Lafayette's EXCEL Scholars Program enables selected students to participate in research projects with faculty members under their direct supervision. The purpose of the EXCEL Program is to enhance the learning opportunities for students, and to encourage collaboration in learning and research between faculty and students. The work of the student assistant, therefore, must be research-oriented and not clerical in its primary emphasis. EXCEL research assistantships are available to full-time students in all disciplines. EXCEL Scholars receive a stipend of \$8-10 per hour and may work part-time during the academic year (up to 10 hours per week), or full time during the summer (10 weeks) and the Interim Session (3 weeks). EXCEL Scholars receive College housing in the residence halls during the period they are working in the Interim and summer. To be eligible as an EXCEL Scholar, students must have completed their first year at Lafayette and should maintain an overall and major GPA of 3.25. Students who would like to be considered for the EXCEL Scholars Program must be nominated by the faculty mentor.

RESEARCH EXPERIENCES FOR UNDERGRADUATES (REU)

REU's are available at research institutions throughout the United States including a few at Lafayette. For further information concerning possible REU opportunities, students should speak to a professor in their field of interest, or visit the National Science Foundation web site, www.nsf.gov.

SOURCES FOR HELP

ACADEMIC HELP

Academic Resource Center: ATTIC provides academic support services to all students. These services include the Tutoring Program and Study Skills Workshops. Workshops are scheduled on a regular basis with topics including time management, note taking, reading, and exam preparation skills. The office also acts as the liaison to the Athletic Department and provides services for special needs students.

Department Heads: DHs coordinate the courses and curriculum for each engineering program.

Jeffers Director of the Engineering Division: The Director of the Engineering Division oversees the engineering facilities and coordinates aspects of the engineering curriculum that affect all engineering programs. The Office will sponsor various information sessions for first-year students throughout the year. Look out for these!!!

Office of the Dean of the College: The Dean of the College is responsible for the academic aspects of student life. She supervises counseling in all phases of academic work and provides for review and determination of the academic status of students. She has primary responsibility for faculty advising, major declaration, orientation programs, the Marquis Scholars Program, national fellowship competitions, and pre-professional advising.

Professors: Your professors will have posted office hours, and may also offer help sessions throughout the semester to give students assistance with assignments.

Registrar: The Office of the Registrar keeps records of the scholastic work and standing of students. The Registrar's office prepares course and hour schedules, and conducts registration and scheduling of students.

Supplemental Instruction (SI): SI is an internationally known academic assistance program that utilizes peer-assisted study sessions. SI sessions are regularly-scheduled, informal

review sessions in which students compare notes, discuss readings, develop organizational tools, and predict test items. Students learn how to integrate course content and study skills while working together. The sessions are facilitated by “SI leaders”, students who have previously done well in the course and who attend all class lectures, take notes, and act as model students. SI is available for many of the first year courses.

Tutors: Tutors are students recommended by faculty who are hired and trained to assist students with courses offered at the College. Tutors meet with their students one-on-one or in group sessions on a regular basis throughout the semester. Students may sign up for a tutor online at: <http://attic.lafayette.edu/peer-tutoring/how-to-request-a-tutor/> and students set up the tutoring schedule at their convenience. Additional information is available by contacting the Academic Tutoring and Training Information Center (ATTIC), 3rd floor of Scott Hall, (610) 330-5098.

NON-ACADEMIC HELP

Career Services: Engineering majors are encouraged to participate in the *Gateway* program offered through Career Services. Counselors work with students individually as well as offer workshops and programs focusing on a range of career related topics. Students can explore engineering careers, outside of the classroom, through externships and internships. A variety of employers seeking to hire engineering students for both internship and full-time positions participate in our on-campus recruiting program. Phone: (610) 330-5115 Email: blythea@lafayette.edu

Counseling Services: The Counseling Center is staffed by counseling psychologists who provide Lafayette students with individual and group counseling for personal and academic concerns. Consultation with one of the counselors is available by appointment. The confidentiality of the counselor-client relationship is strictly observed. Phone: (610) 330-5005

Health Services: While school is in session, a registered nurse is on duty at the Health Center from 8 a.m. to 5 p.m. on weekdays, and from 11 a.m. to 3 p.m. on weekends. General clinic hours for physicians are on weekdays from 9:30 to 11:30 a.m. and from 2:30 to 4:30 p.m. Appointments with a Physician’s Assistant are also available on the weekends from 11 am to 3 pm. Phone: (610) 330-5001

Office of the Chaplain: The Chaplains (Chaplain of the College, Catholic Chaplain, and Jewish Chaplain) coordinate the religious activity programs of the College. They may be contacted

for religious, moral, family, personal, and emotional support, problems and questions. Such consultations are confidential. Phone: (610) 330-5320 Email: rellife@lafayette.edu

Office of the Dean of Students: The Dean of Students is responsible for: residence life, intramural and intercollegiate athletics, other extracurricular activities and religious programs, all non-academic aspects of student life, and health services, cultural programs student conduct and discipline, and student volunteer programs. Phone: (610) 330-5082

Resident Advisers: The RA is there to help students achieve their academic goals and to derive maximum benefits from group living. In addition to student RAs, faculty residents live in several of the residence halls.

DIVERSITY AND INCLUSIVENESS STATEMENT

Lafayette College is committed to creating a diverse community: one that is inclusive and responsive, and is supportive of each and all of its faculty, students, and staff. The College seeks to promote diversity in its many manifestations. These include but are not limited to race, ethnicity, socioeconomic status, gender, gender identity, sexual orientation, religion, disability, and place of origin.

The College recognizes that we live in an increasingly interconnected, globalized world and that students benefit from learning in educational and social contexts, in which there are participants from all manner of backgrounds. The goal is to encourage students to consider diverse experiences and perspectives throughout their lives. All members of the College community share a responsibility for creating, maintaining, and developing a learning environment in which difference is valued, equity is sought, and inclusiveness is practiced.

It is a mission of the College to advance diversity as defined above. The College will continue to assess its progress in a timely manner in order to ensure that its diversity initiatives are effective.