Welcome to the School of Engineering
At Vanderbilt University

*Registration Instructions:*

1. Read all enclosed materials carefully to help you register for your courses properly.

2. Design your schedule, using the sample curriculum and the accompanying instructions to guide you. Be sure none of your classes or lab times overlap.

3. Log on to YES (Your Enrollment Services) at [http://yes.vanderbilt.edu](http://yes.vanderbilt.edu) and enroll in your fall classes June 6 through June 24.

4. Fill out the Declaration of Major form and indicate the field of engineering you wish to choose as a major. If you’re not sure, pick a major that sounds interesting. You may change your major later. Your faculty adviser will be assigned according to your field of interest.

5. Mail or fax in your Declaration of Major form and your Consent to Release Academic Information form no later than June 24, 2011 to:

   Brenda Jordan, Registrar
   VU Station B 351519
   Nashville, TN 37235

   or Fax: 615-343-0670

*Questions?* Please call (615) 343-8061
Or TOLL FREE 1-877-676-9111
Guidelines for Course Selection

All engineering students at Vanderbilt take a common core of courses during the first year, in the sense that all students take:

- Chemistry
- Math
- Engineering Science 140 A, B, C
- Liberal Arts Core requirement or an elective
- Engineering Freshman Seminar (optional)

While it is a "common" first year, many students have Advanced Placement (AP) credits or other special circumstances requiring some guidance in selecting an appropriate schedule for the first semester.

Using the sample curriculum as a guide, use the YES class search to look up the course times for the courses you have selected and place them in your cart. Be careful not to overlap course times.

Choosing your Chemistry Course

If you have a 5 on the AP Chemistry exam, you will receive AP credit for Chemistry, and you should speak with an adviser from the Dean's office about a suitable substitute course for the fall semester. Otherwise, you should take CHEM 102A lecture, CHEM 104A lab, and CHEM 106A recitation.

Choosing your Math Course

Selection of the appropriate mathematics course is a little more involved. The usual sequence taken by entering engineering students is Math 155A, 155B, and 175. Math 155A is a four-hour beginning calculus course. A large percentage of the students in Math 155A will have had calculus in high school. If you have not had calculus in high school, you should consider starting with Math 150A, a three-hour course, the beginning course in a four semester sequence that covers the same subjects in calculus as Math 155A, 155B and Math 175. If you take this route, you should note that it does require an extra semester and one extra semester hour to complete your math requirement.

If you have earned a 4 or 5 on the BC calculus Advanced Placement test, you will automatically be awarded eight hours of credit for Math 155A and 155B. Although you may start with Math 175, you should consider beginning calculus at Vanderbilt with Math 155B as good preparation for your second and third year courses in Math. If you elect to take either Math 155A or 155B at Vanderbilt, the corresponding AP credit will be canceled.

If you have earned a 5 on the AB calculus Advanced Placement test, you will automatically be awarded four hours of credit for Math 155A and you may start with Math 155B.

First-year students should choose a calculus course on the basis of high school background and AP, IB, or transfer credit awarded by Vanderbilt. The Department of Mathematics will evaluate student performance at the beginning of the semester and move students to a different level if warranted. If you find the course you have chosen too advanced, you may drop back to the lower level course without penalty during the first two weeks of the semester.
Placement Tests:

Placement tests are optional. But, if you are planning to continue in a foreign language that you began in high school, we recommend a placement test in that language. The Placement test for French may be found on-line at: http://ascs.vanderbilt.edu/perl/frlangtest.pl or for Spanish may be found at: http://ascs.vanderbilt.edu/perl/splangtest.pl

The Liberal Arts Core

In order to provide the elements of a general education considered necessary for responsible practice as an educated engineer, the School of Engineering requires each student to complete at least 18 hours in the Liberal Arts Core. The Liberal Arts Core will be selected from courses in the five distribution categories designated in the AXLE Curriculum Course Distribution of the School of Arts and Science. You will see the notations for each category within the catalog course description for the course.

a) Humanities and the Creative Arts
b) International Cultures, including Arabic 210a, Chinese 201, French 101a, German 101, Greek 201, Hebrew 111a, Italian 101a, Japanese 200ab and 201, Latin 101, Portuguese 100a, Russian 101, Spanish 100 and 101
c) History and Culture of the United States
d) Social and Behavioral Sciences, including Engineering Management 244
e) Perspectives, including Computer Science 151

and the distribution categories of:

f) Music Composition and Performance
   All MUSC, MUSE, MUSO, and MUSP courses in the Blair School of Music.
g) Cognition and Development
   All Peabody College courses in Psychology numbered 1200-2000, 2230-2470, and 2560-2610, and in Human and Organizational Development numbered 1000, 1100, 1200-1800, and 2240-2280

Within the 18-hour requirement, the student must meet the following distribution requirements:

1. At least 3 credit hours in each of at least three different categories
2. At least 6 credit hours in one category

Humanities and the Creative Arts – (HCA)

African American and Diaspora Studies 260
American Studies 294
Anthropology 226
Art Studio 102, 110, 120, 130, 140, 141, 150, 171, 173, 202, 220, 221, 241, 250, 271, 273, 290
Asian Studies 150
Classics 150
Communication Studies 100, 201, 204, 210, 241, 244
Film Studies 125, 170, 227W, 251
French 115F sec. 3, 211, 212, 256, 261
German 223
Greek 218
History 239A
History of Art 110, 111, 112, 115F sec. 7, 115F sec. 9, 208, 210, 217, 222, 226, 231, 252, 262W, 268, 295
Honors 181
Italian 220
Jewish Studies 115F sec. 1, 115F sec. 4, 248W
Latin 203, 267
Medicine, Health, and Society 205W, 220
Music Literature 115F sec. 2, 121W, 140, 144, 153, 154, 183, 225, 243, 244,
Philosophy 100, 100W, 115F sec. 8, 120, 210, 213, 217, 218, 220, 226, 234, 238, 240, 274
Political Science 103, 202, 205, 253, 258
Portuguese 205
Russian 221
Spanish 115F sec. 2, 203, 232, 233, 234, 236, 260, 281
Theatre 100, 110, 115F sec. 1, 212, 214, 219, 223, 230
Women's and Gender Studies 212, 249

International Cultures – (INT)
Anthropology 115F sec. 6, 212, 213, 223, 254, 269, 278
Arabic 220A, 230A
Asian Studies 115F sec 1, 219, 226, 250W
Chinese 211, 225, 241, 251, 255
Classics 130, 146, 209, 212
Economics 288
English 115F sec. 34
European Studies 201
French 102, 103, 115F sec. 1, 201W, 203, 204, 226
German 102, 103, 104, 201W, 213, 221, 226
Greek 203
Hebrew 113A, 201
History of Art 247, 248
Italian 101B, 102, 103
Japanese 211, 241, 251
Jewish Studies 123, 156, 158, 180W
Latin 100, 103
Latin American Studies 202
Music Literature 115F sec. 1, 160
Philosophy 228
Political Science 210, 216, 228
Portuguese 102, 200, 203
Religious Studies 245
Russian 203, 223, 234
Sociology 220
Spanish 102, 103, 104, 201W, 202, 206, 207, 208, 211, 221
Theatre 202W
History and Culture of the United States – (US)

African American and Diaspora Studies 110, 115F sec. 3
American Studies 100, 100W, 115F sec. 2
Communication Studies 221
Economics 226
English 211W, 263, 268A
History 115F sec. 11, 115F sec. 14, 115F sec. 16, 139, 141, 144, 166, 262, 270, 284B, 286A, 287D
Honors 184
Jewish Studies 138W
Music Literature 147, 148, 149, 152
Philosophy 115F sec. 19
Political Science 100, 245, 247, 265
Religious Studies 242
Sociology 249

Social and Behavioral Sciences – (SBS)

American Studies 295
Anthropology 101, 104, 115F sec. 4, 201, 206, 265, 286
Classics 260
Communication Studies 101
Engineering Management 244
Financial Economics 220, 240, 261, 275
History 200W
Honors 183
Managerial Studies 190, 191, 192, 194, 195, 196, 198
Medicine, Health, and Society 244, 250
Philosophy 115F sec. 29, 254, 256
Political Science 102, 115F sec. 1, 115F sec. 6, 225, 229, 236, 240, 244, 249, 252, 260, 273, 275
Psychology 101, 115F sec. 13, 115F sec. 16, 208, 225, 238, 245, 247, 268
Public Policy Studies 295
Religious Studies 110W, 234
Sociology 101, 101W, 102, 115F sec. 13, 115F sec. 18, 204, 211, 216, 225, 234, 237, 254, 264, 265W
Spanish 115F sec. 4, 214, 216, 217, 282

Perspectives – (P)

African American and Diaspora Studies 101, 150
Anthropology 283
Biological Sciences 115F sec. 3
Classics 115F sec. 3, 224
Communication Studies 115F sec. 3, 223, 235
Computer Science 151
Earth and Environmental Sciences 108, 115F sec. 4
English 115F sec. 30, 243
Film Studies 201
French 214, 240
German 273
History 183, 285A, 288W
Perspectives (continued)

Honors 182
Medicine, Health, and Society 115F sec. 1, 201, 203, 236
Music Literature 261
Portuguese 115F sec. 2, 225
Psychology 252
Religious Studies 229
Sociology 104, 201
Women's and Gender Studies 115F sec. 4, 150, 150W, 240, 250W

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Engineering Science 140

ES 140 A,B,C. Introduction to Engineering (1 credit hour each module) is required of all entering engineering students. This introductory course is designed to assist students in choosing a major or confirming a choice of major; and to provide access to areas of engineering that otherwise may not be explored. The course is divided into three equal discipline-specific modules that are registered for at the same time. Students are required to enroll in three separate modules on three differing areas of engineering. Enrollment in the same discipline more than once will void enrollment in the course. Enrollment in the course is conditional upon three modules being selected during registration.

For example: Jane Doe is interested in mechanical engineering as a major. She should sign up for an ME section and two other disciplines of interest to her (i.e., CE and CS). Her schedule could look like either of the following:

ES 140A – CE -OR- ES 140A – CS -OR- ES 140A – ME
ES 140B – ME -OR- ES 140B – CE -OR- ES 140B – CS
ES 140C – CS -OR- ES 140C – ME -OR- ES 140C – CE

The order of the disciplines does not matter and should only be dependent on the availability of each section. All modules meet MWF, 12:10-1:00pm. The three modules will be completed in a series, each module counts for one credit hour of the three credit hour course and individual grades will be reported for each module separately.

Questions regarding ES 140 should be referred to Dr. Christopher Rowe, Interim Director of the Division of General Engineering, via email at chris.rowe@vanderbilt.edu or phone at 615.322.3479.

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Sample of Fall Semester Curriculum for Engineering Freshmen:

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHEM 102A</td>
<td>General Chemistry Lecture</td>
<td>3</td>
</tr>
<tr>
<td>CHEM 104A</td>
<td>General Chemistry Lab</td>
<td>1</td>
</tr>
<tr>
<td>CHEM 106A</td>
<td>General Chemistry Recitation</td>
<td>0</td>
</tr>
<tr>
<td>MATH 155A</td>
<td>First Year Accelerated Calculus I</td>
<td>4</td>
</tr>
<tr>
<td>Liberal Arts Core requirement or elective credit</td>
<td>3-5</td>
<td></td>
</tr>
<tr>
<td>ES 140</td>
<td>Intro to Engineering</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>A, B, and C (one hour each module)</td>
<td></td>
</tr>
<tr>
<td>ES 101</td>
<td>Freshman Seminar (optional)</td>
<td>1</td>
</tr>
</tbody>
</table>

14 - 17 Total Hours

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**Engineering Freshman Seminars**

**Insight. Innovation. Impact.** Words that describe the contributions from every field of engineering, but where do they begin? The School of Engineering offers optional freshman seminars that provide first year students the chance to work and learn in small group environments with experienced engineering professors. Students will explore current engineering topics and begin to learn how to approach solving real world problems through the guidance of an expert in the field. Not only are these courses designed to introduce students to the importance that engineers have on technology, but also their impact on society. Students will learn about teamwork and communication skills along the way that provide insight to the creative processes involved in engineering majors and to the engineering approach to problem solving. Most Freshman Seminars will be offered in the spring semester but two seminars are offered for the fall and their course descriptions are listed below. You will receive information about the seminars planned for spring 2012 before the spring registration period begins. If you choose to take a seminar, you will earn one hour of open elective credit from a very unique experience.
Course Descriptions • Engineering Freshman Seminars, Fall 2011

“Moore’s Law and the Engineering Economy”

ES 101 Section 1
Meeting Time and Place: 3:10 – 4:00 p.m. Wednesday Featheringill Hall 129

• Dan Fleetwood, Chair and Professor of Electrical Engineering

Description: Computers and electronics are the heart and brains of the new economy. Much of the enormous increases in performance and decreases in price for computers and electronics have come from incredible reductions in size and increases in quality of the transistors that make up these devices. The breathtaking pace of these reductions in size and increases in performance is captured in Moore’s Law, which states that transistor dimensions shrink and chip performance increases by about 100% every two years. For example, 30 years ago transistors were about ¼ the diameter of a human hair. Today, they are nearly 100 times smaller still, and there are more than 100 million of them packed into the microprocessor that powers a desktop PC. At the same time, processing speeds have gone from ~ 4 x 10^6 Hz (4 MHz) to ~ 4 x 10^9 Hz (4 GHz). In this seminar we will talk about the engineering, the science, and the “black magic” that computer chip makers use to make transistors this small. We will talk about the future breakthroughs in computer chip technologies that will be needed to continue this trend, and discuss emerging nanotechnologies that may be needed to sustain the present rate of progress. We will also spend quite a bit of time talking about the impact of the microelectronics business on the economy, and incorporate a stock market simulation involving technology stocks, as a learning tool to illustrate how progress in the technology is reflected by successes of the businesses. Market trends over the very long term will be emphasized over short-term fluctuations. By the end of the seminar, students will be familiar with the basic ideas behind the chip making process, the types of jobs available in semiconductor engineering, and the leading semiconductor companies. In addition, students will have an improved understanding of the types of issues that affect the financial side of the microelectronics business. Experience with using the World Wide Web will be helpful for the class, but there are no prerequisites for this seminar. Credit: 1 semester hour

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“Science and Engineering in Real Time”

ES 101 Section 02
Meeting Time and Place: 3:10 – 4:00 p.m. Wednesday Featheringill Hall 300

- Robert A. Weller, Professor of Electrical Engineering

Description: The pace of scientific discoveries today is dizzying and it is very easy even for a professional scientist or engineer to lose track of discoveries in other fields. This seminar will be based upon reading of the weekly publication Science News. Through a combination of instructor led discussions and student presentations we will explore the most important current developments in all branches of science, engineering, and medicine, with particular emphasis on topics related to global change, within days of their first public announcement. The goal is to gain an appreciation for the essential unity of scientific knowledge and for the relationship between discovery and applications of new knowledge. The seminar is open to anyone, and all are invited, but it will probably be of greatest interest to students considering a career in science, medicine, engineering or public policy. Credit: 1 semester hour

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Registering for your classes – YES (Your Enrollment Services)

YES is available from the Vanderbilt home page. You will see a link at the bottom left hand corner of the Vanderbilt homepage to YES, Your Enrollment Services or go directly to http://yes.vanderbilt.edu. Select this link to log in and use your VUnetID and e-password to access YES.

Once you are logged in, the system will default you to your landing page. The landing page will launch you to your academic applications. To navigate to these applications, use the icons below your student photo or the applications tab in your navigation bar at the top of your screen. The navigation bar is the same throughout many of your academic applications.

Select student registration link from your navigation bar or the available icons. When you enter student registration, the system will default you to class search. You may then begin to select your classes using the quick search or advanced search feature and add them to your class cart. The quick search is based on the subject area, course number, and title. The search will return any classes with those criteria that you type in the search box. The advanced search link will allow you to refine your search by selecting additional criteria. Both methods of searching will allow you to select your classes.

To enroll in all of the classes you have put into your cart, press the select all button at the bottom of the cart. To select a few at a time, use the checkboxes to the left of your cart to choose the classes. Once the classes are selected, click the enroll button at the bottom of the list of classes.
YES (continued)

Messages will appear at the bottom of the screen after you select the enroll button. The messages will say you have successfully enrolled in the class or that you were not enrolled. If you were not enrolled, the error message will tell you why. If you receive an error message or waitlist message, you will have to click on the message to remove it. Success messages will disappear after five seconds. If you want to drop a class, click the red minus sign next to the class you want to drop. When you click the minus sign, the system will ask “are you sure you want to drop this class?” If you are, press yes. Once the class has been dropped, it will no longer show in your enrolled classes list. To see the dropped class, select the dropped filter checkbox at the top right of your screen. The dropped class will appear in this list. YES provides other useful planning and enrollment applications that are described in the HELP link in the upper right hand corner of your student landing page and a first time student registration document is enclosed with this packet.

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V² Mentoring Program

V² (V-squared) is a student-organized freshman engineering mentor program. As a first-year student, you will be assigned an upperclassman mentor of the same potential major as you. This mentor will be available to assist you with any questions and advise you throughout the year should you choose to ask him or her. You should receive a letter from your V² mentor by mid to late July. If you have any questions regarding engineering academics or student life, we encourage you to contact your mentor, who will be more than willing to assist you.

Another exciting series of events that V² sponsors are the weekly panel discussions held during your first semester. As part of the ES 140 program (one of your engineering classes), a panel of engineering students, professors, and professionals will share their insights into specific careers and majors to assist you in making an educated decision on a major selection.