Columbia Engineering Summer Advising Session

Student Agenda – Summer 2010

I. Introductions & overview of session

- Transition from high school to college
- Academic Integrity
- Advising at Columbia
- Basic requirements for a SEAS degree
- First Year Requirements
- Academic Advising Resources
- Registering for Fall Classes
- Q & A

II. Transition from high school to college

Welcome to the Columbia community! At SEAS, students are responsible for themselves and their own well-being, both academically and socially.

It’s important to:
- Take care of yourself – experience freedom wisely.
- Respect the rights of others. Behave responsibly.
- Know when to ask for help, and then ask for it.
- Maintain academic honesty and integrity at all times.

Be aware of some of the ways that SEAS will differ from high school: attendance policies, class schedules, number of graded assignments, class size, and communication and interaction with parents. High school can be relatively formulaic: if you do a, b, and c, you will be able to get into colleges x, y, and z. There is a straightforward goal and a set of clear steps to get there. College is different. People have different goals, and there is never only one way to reach a goal. For that reason, we in the Center for Student Advising encourage students to discover and follow their passions, to explore and grow through the process.

Derrick Bell says in Ethical Ambition: “The sacrifice of passion is a kind of psychic suicide…. Your passion, whatever your calling, profession, or job, is the key to your pleasure in life, the seat of your power, and the root of your sense of agency in the world.”

Advisers can support and guide you, but you are in control of your education and experience, and ultimately responsible for your own choices and decisions both academically and socially. One of the most important things to remember is that nobody is perfect. It is a sign of wisdom and maturity to ask for help when you need it.

III. Academic Integrity

Academic dishonesty is one of the most serious offenses a student can commit at Columbia, and can be punished by permanent dismissal from the university. Speak to your instructor, speak to your adviser, but do not be tempted into an act of academic dishonesty for any reason. It isn’t worth it.

We are so glad that you are here, and we want to keep you here!
IV. Advising at Columbia

The Center for Student Advising (CSA) provides support for students throughout their undergraduate years. Every SEAS student will be assigned a CSA adviser in August and will work with this adviser through the first year. In the fall of sophomore year, it is possible that your adviser will change based on your selected major.

Your adviser is your primary point of contact for a variety of issues and questions, including the following:

- general academic questions, concerns, or difficulties
- registration questions and problems
- receiving transfer, AP/IB/GCE, or summer course credit
- changes in academic program, in consultation with faculty advisers
- premed and pre-law requirements, fellowships, graduate school, and other academic opportunities
- understanding university policies, and petitioning for exceptions to academic policy
- planning to study abroad
- progress toward and completion of requirements for the degree
- personal problems and concerns
- leaves of absence
- future life plans
- referrals to other resources on campus

Starting in August, all CSA advisers will move into a brand new space on the fourth floor of Lerner Hall. The new Center will provide space for students to meet individually with advisers as well as for student groups to congregate. Please come by to see us, and see it!

The Advising Partnership:
Productive advising is built on a true partnership in which the student and the adviser work together. The spirit of an ideal advising partnership is mutual engagement, responsiveness, and dedication. Regular advising conversations, the fundamental building blocks of the partnership, enable an adviser to serve as a resource of knowledge and a source of referrals — so that students may plan and prepare, in the broadest sense, over the course of their years at Columbia.

To make this partnership a success:

Students should:

Ø Actively engage in the advising relationship

Ø Respond to adviser outreach and be forthcoming about perceived obstacles to success

Ø Proactively research and plan ways to reach academic goals and be open to sharing these goals with their advisers

Ø Be open to researching the answers to questions with advisers in order to learn ways in which to find information on their own

Ø Act upon referrals to other sources of information and advice

Ø Let advisers know when they have not been able to find information and advice they need.
Advisers should:

Ø Be knowledgeable, responsive, and supportive
Ø Reach out to advisees, especially when an advisee seems to be struggling
Ø Inquire about students' short- and long-term goals and ask students to consider studying abroad, fellowships, scholarships, internships, research opportunities, etc.
Ø Research the answers to questions with students as a way to show students how and where to find information on their own
Ø Refer students to other sources of advice and information and connect advisees with appropriate faculty members and departments
Ø Follow up with students on important matters in a timely way.

This is what you can expect from us, and what we will expect from you. This is the standard by which we as advisers can be measured. At the end of your first year at Columbia, we will ask you to take a survey in which you evaluate your adviser and yourself in terms of these specific expectations.

V. Basic Requirements for a SEAS Bachelor of Science (B.S.) degree

Students have 4 years to graduate (8 semesters).

Students need a minimum of 128 credits to graduate. The average course load per semester is 16-17 credits, or 5 classes. These 128 credits must include:

- The First-Year/Sophomore requirements (SEAS ‘Core’)
- 27 credits of non-technical courses (i.e. not math or science. A full list of acceptable classes is listed in the SEAS Bulletin.)
- A SEAS major

VI. First-Year Requirements

These classes must be completed in the first year in SEAS.

Calculus

All first-year students must take Calculus. There are 4 levels of Calculus; most majors require proficiency through the 4th level, although some require proficiency only through the 3rd level. Students may change Calculus levels, if warranted, in the first few weeks of the semester.

There is a placement test for math, given during New Student Orientation, but students can also use the following guidelines to register for the appropriate level:

- Calculus I (MATH V1101) -- less than one full year of calculus in high school or less than a 3 on Calc AB or BC.
- Calculus II (MATH V1102) – AP score of at least 4 on AB exam, or a 4 on BC exam

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- Calculus III (MATH V1201) – AP score of 5 on BC exam

**Important:** Both Calc II and Calc III are foundation courses for SEAS and students must master the material in both in order to lay the groundwork for success in the SEAS curriculum. Placement into Calc III is ONLY allowed if you have a 5 on Calc BC or you take the placement test during Orientation week and place into the higher level course. **Students who take Calc III without Calc II or proven equivalency may be required to take Calc II in a subsequent semester.**

**Chemistry**
At least one semester of Chemistry is required of all first-year students, and must be taken in the first year. Many majors require two semesters of Chemistry. All SEAS first-year students must attend a mandatory information session and placement test during Orientation, regardless of anticipated level.

There are 3 levels of Chemistry:

- General Chemistry (CHEM C1403-1404), and possibly lab (CHEM 1500) depending on major
- Intensive General Chemistry (CHEM C1604) and Intensive G. Chem Lab (CHEM C2507)
- Organic Chemistry for First-Years (CHEM C3045-3046)

Students taking one of the advanced levels of Chemistry should at a minimum be registered for Calc II.

**Physics**
SEAS students must take a Physics sequence in the first year, and must begin this sequence in the fall.

There are 3 levels of Physics:

- Physics C1401-1402
- Physics C1601-1602 (same as 1400 series but is taught at an accelerated pace and includes thermodynamics and relativity theory).
- Physics C2801-2802: Accelerated Physics

Most SEAS students take either the 1400 or 1600 sequence. Students who have a very strong background in Physics and wish to take Accelerated Physics must either take the placement exam during Orientation, or have scored a 4 or 5 in both AP Physics and AP Calculus. **Student must** attend a mandatory information session before sitting for the Physics placement exam.

*Please note: if you are in one of the advanced Chemistry sequences, you are expected to take either the 1600 or 2800 Physics sequences.

**University Writing**
University Writing (ENGL C1010) is required of all first-year SEAS students. It is taken in either the fall or the spring, depending on the first initial of your last name. This course will be pre-registered for you.

**Gateway Lab**
The Botwinick Gateway Laboratory (ENGI E1102, also called “Design Fundamentals Using Advanced Computer Technologies”) is required of all first-year SEAS students. It is taken in either the fall or the spring, in the semester opposite of University Writing. This course will be pre-registered for you.
Professional-Level course
One professional-level course is required of all first-year students, although it is possible to delay this requirement until the sophomore year. This is an introductory elective that will introduce you to a specific major or area of engineering, and will be taught by departmental faculty.

Many of the professional-level courses are offered in the spring, but the following are offered this fall:

- Engineering in Medicine (BMEN E1001) – recommended for students interested in Biomedical Engineering
- Intro to Electrical Engineering (ELEN E1201) – recommended for students interested in majoring in Electrical Engineering. Required for Biomedical Engineering but does not count as the professional course in this major.
- Micromachines to Jumbo Jets (MECE E1001) – recommended for students interested in Mechanical Engineering
- Engineering Graphics (GRAP E1115) – recommended for students interested in computer graphics, 3-D modeling, animation, technical drawing. Should not be taken in the same semester as Gateway Lab.

Other requirements to consider when finalizing one’s schedule

- **Computer Science.** All majors except for Chemical Engineering require at least one semester of Computer Science. Your choice of major will determine which Comp Sci course you take, and how soon in your SEAS career you should take it. (i.e. BME majors must take COMS 1005: Matlab, while Mech Eng and IEOR majors can not take Matlab).

- **Chemistry Lab (CHEM 1500).** All SEAS majors require that students take either Chem or Physics lab. Choice of lab may depend on major. Physics Lab can only be taken in sophomore year, but Chem Lab can be taken in the first year.

- **Art Humanities (HUMA 1121) or Music Humanities (HUMA 1123).** Required before graduation; recommended in the first two years.

- **Principles of Economics (ECON 1105).** Required before graduation; recommended in the first two years. IEOR majors and/or Econ minors should take this course in the first year.

- **Physical Education.** SEAS students must take two semesters of PE before graduation. Varsity athletes may register for their sport (PHED 1005).

Non-technical electives
SEAS students must take at least 27 credits of non-technical coursework to graduate. Approximately 18 of these credits are accounted for via required courses (i.e. University Writing, Econ 1105, Art or Music Hum, the humanities sequence), but at least three additional elective classes are still needed to make up the rest of the 27 credits. These can be taken at any time. Almost any course from the humanities and social sciences (English, Political Science, History, Religion, etc.) will count, as can certain AP exams/scores.

VII. Registering for Classes

At the end of the Columbia Engineering section of the Planning Guide, there is a tear-out sheet that you should complete before arriving on campus for Orientation. When you first meet with your CSA adviser, your answers on that sheet will provide a springboard for further conversation and exploration. We also would like you to start thinking about courses for the fall term, and about your Columbia career in general.
First-year students will be able to register using Student Services Online (SSOL) on the **Friday of Orientation week**. You will receive an Academic Packet during Orientation check-in which will contain your SEAS Bulletin, registration instructions, and your pre-registered schedule (listing either Univ. Writing or Gateway). During the summer, you can consult the SEAS Bulletin online at [www.engineering.edu/bulletin/](http://www.engineering.edu/bulletin/).

Although the SEAS curriculum is largely set for the first semester, we still ask that you think about which classes you want to take, and consult with your adviser during the summer to solidify your plans.

**VIII. Advising Resources Before, During, and After Orientation**

**Before Orientation**

- The SEAS Bulletin contains major requirements, course descriptions, and departmental contact information: [www.engineering.edu/bulletin/](http://www.engineering.edu/bulletin/).
- The Center for Student Advising website: [www.studentaffairs.columbia.edu/csa/](http://www.studentaffairs.columbia.edu/csa/)
- Academic Planning Guide for New Students
- Your Summer Advising Session facilitator, available via email or phone.

**During Orientation**:

- Meet with your CSA adviser to discuss your fall schedule and course selection. You will be notified of your adviser’s name and contact information in early August.
- An information session will be held for pre-med students.
- Language placement exams will be given.
- Chemistry, Physics, and Math placement exams will be given. Students interested in taking an advanced level of Physics or Math, or any level of Chemistry, must attend the information sessions given prior to the exams.
- Attend the Academic Resources Fair, which is an excellent opportunity to meet faculty members and learn more about Columbia’s academic departments
- More group information sessions will be held (like this one!) if you feel like you need a refresher.

**After Orientation**

- Your CSA adviser
- Tutoring: Math, Chemistry, Statistics, and Physics Help Rooms; the Writing Center
- Counseling Services and Academic Success Programs will offer workshops on time management, study skills, and a variety of first-year issues
- Faculty*

One of the most important ways in which you can truly benefit from your college education is by getting to know faculty members. Columbia faculty members are world-renowned experts in their fields and you have an amazing opportunity to learn from them. As Richard Light writes in *Making the Most of College: Students Speak Their Minds*, you should strive to get to know at least two faculty members per year who could write you a solid letter of recommendation. If you are intimidated or simply unsure about how to go about connecting with faculty, speak with your CSA adviser.

**IX. Q & A**