To: Economics Majors, Joint Majors, and Concentrators From: Susan Elmes, Economics Department DUS Subject: Information for academic year 2019-2020 Date: August 2019

This memo is addressed to all students who have declared a major, joint major, or concentration in economics to help you plan for the upcoming academic year.

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Graduation Clearance

In order to graduate, the Department must certify that you have completed your declared program in economics. We will check your Columbia transcript and any transfer credits that have been approved by the Department. Each year, we discover students whose records are incomplete (e.g. transfer credit approvals are missing), or who have not strictly followed the course sequencing requirements. In some cases, this is not discovered until it is too late for the student to graduate on time with his or her intended economics degree. It is your responsibility to make sure that you have completed your economics major and that your student records are up to date. You should complete a <u>checklist</u> for your program. If you have any questions or concerns about your completed checklist, then you should contact **econ-advising@columbia.edu**. You should <u>not</u> rely on your DAR or on your College or GS advisor to certify that you have completed your economics program. Four of the most common problems are:

- AP, IB or GCE credits not listed on the transcript: If you are using any of these advanced placement credits in place of *Principles of Economics* or *Calculus I,II*, then those credits <u>must</u> appear on the bottom of your transcript. If they do not, then you are officially missing those required courses for the major/concentration. You must speak with your College or GS advisor ASAP to have those advance placement credits posted.
- Math High School credits: If you have high school math credits that exempt you from Calculus I, then you must obtain written certification from the Math Department, and have that sent to the economics department (send to Iy38). Note that if you have been waived out of Calculus-I but not given college credit for your calculus course, then you must replace the 3 credits with an additional course. The Economics Department accepts any economics, math or statistics elective course at

the 2000 level or higher, *Calculus II, Calculus IV* and any computer science course as a replacement for Calculus I.

- Transfer credits: <u>All</u> economics transfer credits used for an economics program must be approved in writing by the Economics Department. *Calculus-I* and *Stat 1201* transfer credits must also be approved by us. See the departmental <u>Transfer Credit</u> page for details on how to apply for departmental transfer credit approval. Other math /statistics courses must be approved by those departments, and a copy of those approvals must be sent to the economics department (ly38)).
- Course Sequencing: We do <u>not</u> count credits from courses that were taken prior to the completion of the course pre-requisites. All course pre-requisites are posted in the bulletin, on the Department website and on the Registrar's *Directory of classes* site. If you have taken a course prior to, or concurrently with its pre-requisites, then you will be required to take at least one <u>additional</u> course in economics, and you should contact Laura Yan (Iy38) ASAP to discuss what additional course (or courses) will be required.

The earlier that you find any of these issues, the easier it is to take care of them. All majors and concentrators should fill out the checklist for their program. Students who have any questions or concerns about the fulfillment of his or her program, are advised to email (<u>econ-advising@columbia.edu</u>), or speak in person with econ-advising. The Department will not give graduation clearance to any student who has not satisfied the major or concentration requirements due to any potential problems caused by the above points.

Advising

Graduate student advisors hold weekly office hours and respond daily to student emails. The graduate student advisors are able to discuss *major requirements, course scheduling and selection, your completed checklists* and *your progress in the major*. Outside of transfer credit or study abroad questions, students should direct all questions and concerns about their major to econ-advising either through email or in office hours. Office hours are available in the academic year and will be posted on the website shortly before the beginning of the semester.

Graduate student advisors do <u>not</u> handle approval for transfer or study abroad credits. All economics transfer credits must be approved in writing by the Department of Economics. If you have transferred to Columbia and you would like to transfer credits from economics courses taken <u>before</u> you came to Columbia, then you should contact your CC or GS advisor to initiate the process. If you are at Columbia and would like to take economics courses at another institution (including summer courses and courses taken abroad), then you should contact Dr Gulati. Information regarding the application for transfer credits and the materials you must present is available on the <u>Transfer Credit</u> page. Please read that material carefully before submitting your materials for approval – <u>incomplete submissions cannot be evaluated</u>.

Students may request a faculty advisor to discuss academic or career goals. Faculty advisors will not discuss major requirements (that is the role of the graduate student advisors). Faculty advisors will discuss course selection to meet intellectual goals and interests, as well as career or research options. If you plan on attending a PhD program in economics or pursuing economics research after graduation, then it is recommended that you request a faculty advisor. There is a link to a form on the <u>Advisors</u>' page to request a faculty advisor.

International Students

The economics, financial economics, economics-math and economics-statistics majors are designated as STEM programs. Students who complete these programs are eligible for extended **OPT**. Many students choose to use some of this extended time before graduation in order to take a summer internship. It is **strongly recommended** that you contact ISSO as early as possible to discuss applying for OPT for a summer internship. There is a substantial time lag between the application for OPT and approval of the application. If you wait until the spring semester to apply, it is likely that your application will not be approved in time.

Alternatively, the College and GS may be able to arrange a CPT visa. This is available to all students regardless of major. To explore this option, you should speak with your CC or GS adviser.

The Economics Department does not have any information about these applications and cannot answer any of your questions. You must consult with ISSO and your advising deans.

Lecture Courses

For the most up to date information on course offerings (*including registration numbers, days, times and classrooms*) you should check the Registrar's <u>Directory of Classes</u> site.

<u>Waitlists</u>

In most cases, the registration cap is equal to the room capacity, and we cannot move classes to larger rooms. Hence, when registration reaches the cap, you cannot be added to the class roster by the instructor. You must sign up for the wait list online in SSOL.

In the cases of 4280 Corporate Finance, any Junior Seminar (e.g. UN3952), 4995/4996 Research Credit and 4997/4998 Independent Study, you will only be able to register for the waitlist. The <u>Registration Information</u> page contains the details on taking one of these classes.

GU4370 Political Economy

Political Economy will only be offered in the fall semester. All seniors in the joint major with political science who have not previously taken it <u>must</u> take GU4370 Political Economy this fall. Juniors planning on graduating one or two semesters early <u>must</u> also take GU4370 this fall.

SDEV UN2320 Economic and Financial Methods for Sustainable Development

Economics majors and concentrators may take SDEV UN2320 for 2000 level elective credit. If you are pursuing programs in both economics and sustainable development, you should speak with your College or GS adviser regarding the new policy on double counting this course. If you would like to count it as a 2000 level elective, then you must send Laura Yan an email (ly38) indicating that you would like to do so.

College Business Courses

Columbia College offers several business oriented classes. We do not oversee these courses, and do not have information about them. **If you have questions about these**

courses, please contact the Business School for more information at

<u>BusinessManagement@gsb.columbia.edu</u>. Note that you may only take these courses for credit towards the financial economics major (subject to the limitations posted in the bulletin). You may not take these courses for credit towards an economics major, concentration or any joint major.

5000 and 6000 Level Courses

Graduate level courses in economics (courses numbered 5000 and above) are closed to online registration by undergraduates. All 5000 level courses are restricted to Masters students. Undergraduates wishing to take a 6000 level class must receive approval from both the Directors of Undergraduate and Graduate Studies. Prior to taking any of these 6000 level classes, it is expected that you have successfully completed one or (preferably) more of the advanced undergraduate courses (4211, 4213 and 4412), higher level statistics (e.g. the sequence 4203-4204), and at least one semester of mathematical analysis (4061). Requests to take one of the 6000 level courses must be made in writing (se5@ columbia.edu) by August 20.

Elective Courses Offered Only in the Fall

The following courses will be offered <u>only</u> in the fall semester: UN2105 American Economy, GU4020 Econ of Uncertainty and Information, GU4213 Advanced Macro, GU4301 Economic Growth and Development, GU4325 Economic Development of Japan, GU4370 Political Economy, GU4412 Advanced Econometrics, GU4438 Economics of Race, GU4480 Gender and Applied Economics, and GU4850 Cognitive Mechanisms and Economic Behavior.

Elective Courses Offered Only in the Spring

The following courses will be offered <u>only</u> in the spring semester: UN2257 Global Economy, UN3952 Macroeconomics and Formation of Expectations, UN3901 Economics of Education, GU4211 Advanced Micro, GU4230 Economics of NYC, GU4260 Market Design, GU4321 Economic Development, GU4505 International Macroeconomics, GU4710 Financial Markets and the Real Economy, GU4840 Behavioral Economics, and GU4860 Behavioral Finance.

Elective Courses Offered Both Semesters

The following courses will be offered in both semesters: UN3025 Financial Economics, UN3265 Money and Banking, GU4251 Industrial Organization, GU4280 Corporate Finance, GU4415 Game Theory, GU4465 Public Economics and GU4500 International Trade.

Elective Requirements for Joint Majors

- If you are a joint major with political science, statistics or mathematics, then only economics elective courses at the 3000 level or higher may be counted towards your major requirements.
- If you are an Economics-Philosophy joint major, then all three of your electives must be at the 3000 level or higher. In addition, you must select two of your required three electives from the following list: GU4020 Economics of Uncertainty and Information, GU4213 Advanced Macro, GU4228 Urban Economics, GU4230 Economics of NYC, GU4235 Historical Foundations of Modern Economics, GU4301 Economic Growth and Development, GU4321 Economic Development, GU4370 Political Economy, GU4400 Labor Economics, GU4415 Game Theory, GU4438 Economics of Race in the United States, GU4465 Public Economics, GU4480 Gender and Applied Economics, GU4500

International Trade, GU4615 Law and Economics, GU4625 Economics of the Environment, GU4750 Globalization and its Risks, GU4840 Behavioral Economics, GU4850 Cognitive Mechanisms and Economic Behavior, GU4860 Behavioral Finance, BC3011 Inequality and Poverty, BC3019 Labor Economics, BC3029 Development Economics, BC3039 Environmental and Natural Resource Economics and BC3041 Theoretical Foundations of Political Economy. Your third elective may be any elective at the 3000 level or higher.

If you are a Financial Economics major then you must take 4 elective courses and a minimum of 2 of these must come from the following list of economics courses: UN3265 Economics of Money and Banking, GU4020 Economics of Uncertainty and Information, GU4213 Advanced Macroeconomics, GU4251 Industrial Organization, GU4260 Market Design, GU4412 Advanced Econometrics, GU4413 Econometrics of Time Series and Forecasting, GU4415 Game Theory, GU4465 Public Economics, GU4500 International Trade, GU4505 International Macro, GU4700 Financial Crises, GU4710 Finance and the Real Economy, GU4840 Behavioral Economics, GU4850 Cognitive Mechanisms and Economic Behavior, GU4860 Behavioral Finance, BC3014 Entrepreneurship, and BC3017 Economics of Business Organizations. Your remaining 2 elective courses may come from the above list of economics courses or from the list of acceptable outside courses. See the major checklist or the bulletin for the list of courses that you may take for your remaining 2 elective courses for the financial economics major.

Senior Seminars

Fall Seminar Registration

Seminars are strictly limited to <u>16</u> students. Registration for GU4911 section 0 is closed for the fall semester. Final assignments to the seminars will be made by **August 28th**. All remaining seats will be available for walk in registration beginning on the first day of classes. During the first week of classes, only seniors may enroll in the seminars. After the first week of classes any student who has completed his or her core requirements in economics may enroll in any seminar that remains open. For more information about the sign up process, please see the <u>Senior Seminars Registration</u> page.

Seminar Pre-requisites

All students other than econ-poli sci majors must have completed the core intermediate courses (UN3211, UN3213 and UN3412) prior to registering for a senior seminar in economics. Econ-poli sci students must have completed UN3211, UN3213, UN3412 or POLS GU4711 and GU4370 prior to taking the senior seminar. **No** students will be allowed to register for these core requirements concurrently with their senior seminar.

Seminars for the Joint Majors

Seminars for the joint majors are offered in the spring semester only. Econ-poli sci majors <u>must</u> take GU4921, econ-philosophy majors <u>must</u> take GU4950, and econ-stats majors <u>must</u> take GU4918. As noted above, you must have completed the seminar prerequisites before you will be registered for these seminars. Laura Yan will contact you directly about seminar registration in November. You will not participate in the seminar lottery.

If you are a junior in one of these joint majors and are planning on graduating early (either in your junior year or fall of your senior year), then you must take these seminars this spring. That requires you to complete the seminar prerequisites this fall semester. You must also contact Laura Yan in early November to let her know that you are planning an early graduation.

Financial Economics Majors

The following fall seminars will fulfill the seminar requirement for the major: GU4911 2 Masia, GU4911 4 Dang, GU4911 5 Dutta, GU4911 6 Haeringer, GU4913 1 Gomez, GU4913 2 La'O, and GU4913 3 Pinkovskiy.

Honors Thesis

All students interested in writing a senior honors thesis during academic year 2019-20 should have submitted a preliminary proposal during the spring 2019 term. Regardless of whether you did or not, you must send your final proposal to me by **August 20th** (<u>se5@columbia.edu</u>). The final proposal must include the following information:

- 1. A (minimum) one paragraph description of your topic. The paragraph must contain at least one economics question that you would like to address in your thesis. Since most theses are empirical, you must also note what data sets you will be using to answer your question.
- 2. A second paragraph indicating what in your background (either class work or work experience) qualifies you to work on your proposed topic (e.g. if your topic is Russian exchange rate movements you might want to tell me that you have taken international monetary theory).
- 3. All of the grades that you have received in your economics classes at Columbia. Simply copy the grades in economics classes as recorded in your Columbia DAR. You should not include grades from other departments. If you have transferred any economics credits, then you should include those grades as well.
- 4. Finally, include the name(s) of faculty members that you believe would be interested in working with you. If you do not know a faculty member who would be interested, then you should look at our website for information on their research interests.
- 5. You must complete the Google form at <u>https://docs.google.com/forms/d/e/1FAIpQLSc7xgH_iM8IR5NItljggYv3xE3qTqq6z9fz</u> <u>7w5kJRxMSrqIGQ/viewform?usp=sf_link</u>

A faculty committee will review the proposals to both select students for the seminar and to match students with an appropriate faculty member who will serve as the student's thesis advisor. Admitted students will put their names on the waitlist for the honors seminar.

GU4999 will run as a year-long course for 3 points per semester with a grade reported only at the end of the academic year. Writing a thesis will substitute for the departmental seminar requirements. Students who wish to drop out of the honors program at the end of the fall semester may do so. In this case, he or she will receive a grade of R for the fall. The student will be required to take a senior seminar to satisfy the seminar requirement.

In addition to working one-on-one with your faculty advisor, the senior thesis candidates will meet as a group to discuss their research. In the fall these meetings will be held on Wednesdays from 2:10-4 with Prof Best. You must be able to attend the Wednesday meetings. The first meeting will be in late September. Once you are registered you will receive a meeting schedule.

For more information regarding Departmental Honors and the Senior Thesis, see the <u>Honors and Prizes</u> page. The page includes <u>advice</u>, a link to a <u>writing guide</u> and <u>examples</u> of some of the outstanding theses of former students.

Opportunities

<u>Career Opportunities</u> has links to specific information available from Career Education, as well as, links to online career and job search resources for economics majors. <u>Research</u> <u>Opportunities</u> has information both for students looking for RA positions at Columbia and for students looking for full-time positions after graduation.

Graduate Study in Economics

The AEA has a resource page for <u>Preparing for graduate school</u> where you will find information about types and rankings of programs, fellowships available, and academic preparation for graduate work. <u>Considerations for prospective graduate students</u> in economics has advice regarding pursuing a PhD in economics, as well as, links to further advice on the application process and the expectations of a graduate program. Of particular note is the Athey essay and the BYU guide, but all of the links contain helpful information.

If you are considering graduate work, you should speak with econ-advising ASAP to plan your course schedule. We also recommend that you

- check out the list of recommended courses on the Sample Programs
- take a junior seminar
- write an honors thesis
- work as an RA for at least one faculty member.
- request a faculty advisor

There will be an information session in the fall for students considering graduate work in economics. Information will be sent on the major listserv and posted on the wiki page.

TA Positions

The department is hiring undergraduates to work alongside our graduate students as teaching assistants in several courses. Each assistant will be paid \$1800 per semester. An announcement will be sent shortly advertising the available positions. Applications are due by **August 20th**.

RA Positions

At the beginning of the semester, the department will send out the names of faculty members and PhD students who are looking for undergraduate research assistants. You will also find the latest information on jobs, internships and other opportunities for undergraduates on the <u>wiki</u> space: Alternatively, if you know of a faculty member who would like to hire you as an assistant, then ask that faculty member to contact me. For more information on RA positions see the <u>Research Opportunities</u> page.

Prizes

All prizes are open to majors and joint majors.

The **Parker Prize** is awarded each year to the top CC economics major that will be pursuing a Ph.D. in economics. The prize committee will consider applicants who are not planning to immediately start graduate school, although preference may be given to those students who are entering a Ph.D. program in 2020-21. Please be sure to let me know in the fall semester if you are applying for graduate study in economics for academic year 2020-21, or else plan to pursue a Ph.D. in economics within the next few years.

The **David Estabrook Romine Prizes** in Economics are available to both CC and GS students: one prize will be awarded for the best paper written in a senior seminar, and one prize will be awarded for the best senior honors thesis. Faculty will be asked to nominate students for these prizes and a faculty committee will select the winner. All prize winners will be announced at the end of the spring term. If you are taking a senior seminar in the spring of your senior year and you want to be considered for the Romine Prize, then you should speak with your instructor before the first week of April.

The **Parker Prize for Summer Research** provides financial support for CC students who take unpaid summer internships that focus on research. The **GS Prize for Summer Research** provides financial support for GS students to conduct research during the summer months. By introducing students to original research, a summer internship can provide the foundation for an honors thesis or develop an interest in pursuing a graduate degree. We are looking to support up to five CC (juniors preferred but it is open to all economics students) and two GS underclassmen.

For more information regarding Prizes, see the Honors and Prizes page.

Transfer Credits, AP/ IB Credits and Barnard Electives

The Department sets a minimum number of lecture courses that you must take in the <u>Columbia</u> Economics Department to fulfill your major requirements. The remainder of your credits may come from a combination of AP credits, transfer credits and Barnard elective course credits.

| Program | # Lecture | Min # in | Max # |
|-------------------|------------------------|-------------------------|----------------------|
| | Courses in | Department ² | Outside ³ |
| | Economics ¹ | | |
| Major | 9 | 5 | 4 |
| Financial Econ | 8 | 5 | 3 |
| Math | 7 | 5 | 2 |
| Political Science | 7 | 5 | 2 |
| Statistics | 7 | 5 | 2 |
| Philosophy | 7 | 5 | 2 |
| Concentration | 7 | 4 | 3 |

The following table outlines the rules for each of the majors and joint majors in economics.

1. Lecture courses do not include seminars which must be taken at Columbia. The lecture course counts are counts of economics courses only, and do not include math, statistics or courses in other departments.

2. At least 2 of the 3 3000-level core courses must be taken in the department and no corresponding Barnard courses will be accepted. The two courses jointly taught by the

Columbia and Barnard departments (UN3025 and UN3265) will be counted as departmental courses regardless of the instructor.

3. **Outside courses** include AP (IB, GCE) credits for Principles (1 course), transfer credits for Principles (1 course even if it was a two semester sequence), Barnard 2000 and 3000 level elective courses and transfer credits from other universities.

Information regarding transfer credit approval is posted on the <u>Transfer Credit</u> page. You must read this material carefully before seeking approval. To apply for transfer credits for courses taken prior to registering at Columbia, you must speak with your CC or GS advisor to initiate the process. To apply for transfer credits for courses taken during a study abroad or summer session, you must speak with Dr Gulati *prior* to taking those courses to seek preliminary approval. You must speak to him again when you return to campus to get final approval.

Computing and Data Resources

There is a dedicated TA to assist students with data and programming related questions. Students who are writing empirical papers, or working on empirical projects either in a lecture (other than UN3412 Econometrics) or a seminar, may speak with the TA during his or her office hours regarding programming issues. The office hours will be posted on the *Advisors* page and the <u>Computing and Data Resources</u> page early in the semester. The TA will be able to answer questions regarding STATA and R programming. On the Computing and Data Resources page, you will also find some basic STATA and R tutorials and links to more information on the web. Students who are taking econometrics should consult with their econometrics TAs regarding their programming issues.