

2017-2018

FIRST-YEAR REGISTRATION GUIDE



CASE WESTERN RESERVE
UNIVERSITY EST. 1826

Office of Undergraduate Studies

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Introduction to the First-Year Registration Guide

Congratulations on joining the Case Western Reserve University Class of 2021! The Office of Undergraduate Studies is pleased to present this year's First-Year Registration Guide. Our role is to support students in their academic pursuits and provide guidance to individual students and their advisors on matters that impact their academic experiences. Our staff includes deans, pre-professional advisors for health careers and law, and the coordinators of the four first-year residential colleges. We look forward to serving as a resource to you this summer and throughout the academic year.

In addition to helping you with registration for the fall, we'll play a critical role in providing you with academic guidance and support throughout your time as an undergraduate at Case Western Reserve. Along with your advisors, faculty, and other professional staff, we'll work with you to make the most of your academic experience. As outlined in our mission:

- We collaborate with the schools, academic departments, faculty, and other administrative offices to develop programs and policies that support, inspire, and challenge students.
- We guide and support undergraduate students as they navigate the University; discover, define, and realize their academic and career goals; acquire skills and experiences that foster meaningful lives of engagement in local, national, and international communities; and access advice and support services that will promote their success.

Using the FYR guide

This guide has been created to assist with developing a schedule and registering for your first semester classes at Case Western Reserve. You should review all the information in this guide prior to fall semester registration, which will take place July 11-14, 2017. As you read through the FYR guide, you will find information about academic requirements, instructions for completing various registration-related tasks, academic advice, and supplemental information that will be useful to you throughout the summer and the fall semester. Make sure you allow yourself ample time to read through this guide. You are not expected to commit this information to memory, but you should become familiar with it and know to access it as needed. More details about all the items referenced in this introduction are contained throughout the guide. Be sure to review it thoroughly.

What to expect from the registration process this summer

The Office of Undergraduate Studies will be your primary resource for assistance with planning and registering for your fall semester courses. We'll provide you with a variety of materials and resources in addition to this guide, such as online information sessions, registration help videos, and regular updates in the First-Year Information (FYI) newsletter. We'll also be available to assist you with any questions you might have about this process or any other academic topics. We have a staff dedicated to assisting incoming first-year students.

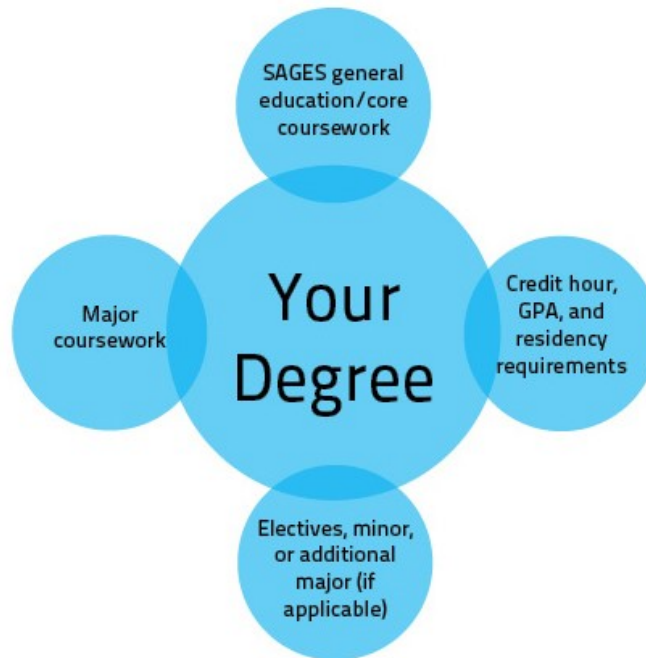
After the registration period has ended, we will take time to review every student's schedule. You'll be able to track the progress of the review process on the New Student Checklist. Students for whom we have questions or concerns regarding their schedules will be contacted for clarification. After schedule review and before new student orientation, you will be placed in a SAGES First Seminar. During new student orientation, you'll meet with your SAGES First Seminar instructor, who will also serve as your academic advisor. This will provide you with one final opportunity to review your schedule prior to the start of classes, as well as begin the process of developing a relationship with your advisor—critical to your academic success. Until meeting with your advisor, the Undergraduate Studies staff will serve you in an "advisory" capacity.

As you work your way through the FYR guide, questions will likely arise. Keep in mind that the staff in the Office of Undergraduate Studies is here to help. Should you need assistance or have inquiries related to degree requirements, scheduling, or any other academic topic, simply call our office at 216.368.2928 or email us at summerreghelp@case.edu.

We look forward to working with you this summer and throughout your time here at Case Western Reserve University. You will certainly be hearing more from us over the coming weeks and months, and we hope to hear from you as well.

Your Academic Degree

Case Western Reserve University offers two types of undergraduate degrees: Bachelor of Arts and Bachelor of Science. Both types of degree include several common elements. Detailed explanations of the SAGES general education curricula can be found in this guide and the General Bulletin.



SAGES general education curricula: These courses are designed to develop quantitative, analytical, and communication skills as well as a heightened awareness of human values and institutions. Courses focus on writing competency, the arts and humanities, natural and mathematical sciences, social sciences, and physical education. Many courses used to fulfill college- or school-specific breadth requirements are applicable to all undergraduate degree programs, making possible the movement between different degree programs and majors. Students must also complete two semesters of physical education.

Major(s) requirements: Completion of a major requires 10 or more courses as defined by the department. Case Western Reserve offers more than 60 majors leading to Bachelor of Arts and Bachelor of Science degrees. Students must complete at least one major and, if interested, may pursue more than one major or degree.

Minor requirements: A minor concentration requires no fewer than 15 credit-hours and normally requires no more than 18 credit-hours. Minors are not required. Students have the option of completing a minor in a discipline other than the major. The successful completion of a minor will be indicated on a student's transcript.

Open electives: Courses taken beyond the major and SAGES general education requirements to complete the credit-hours necessary for a degree. These are not required except to meet total credit-hours required for the degree. The amount of space available for open electives varies by program.

Minimum 120-133 total credit-hours: Different majors and degree programs require different total credit-hours for graduation. See the General Bulletin for a complete listing of degree requirements.

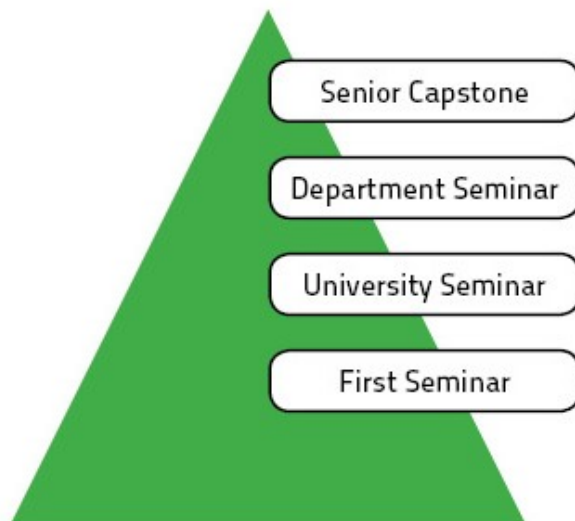
Minimum 2.0 cumulative GPA: Some degree programs also require a GPA of at least 2.0 in the major.

Residency requirements: All students must earn a minimum of 60 credit-hours in residence at Case Western Reserve University, of which at least 15 must be earned after the student earns a total of 105 hours.

Degree requirements may be fulfilled through completion of CWRU courses, credit earned through AP or IB examinations, credit earned through CWRU proficiency examinations, and through approved transfer credit.

SAGES: Seminar Approach to General Education and Scholarship

The SAGES program is, along with the physical education requirement, the common portion of the general education requirements of all undergraduate degree programs. Detailed explanations of the SAGES general education requirements can be found in the General Bulletin and on the SAGES website.



First Seminar: All First Seminars are interdisciplinary courses characterized by intense yet open-ended intellectual inquiry. The goals of First Seminar are to enhance skills such as critical reading, thoughtful analysis, and written and oral communication; to introduce basic information literacy skills; to provide a foundation for ethical decision-making; to encourage a global and multidisciplinary perspective on the learning process; to facilitate faculty-student interactions; and, in the most general sense, to provide a supportive common intellectual experience for first-year students at Case Western Reserve. A student's SAGES First Seminar professor serves as his or her first-year advisor until a major is declared. The three types of First Seminar are Thinking about the Natural World (FSNA), Thinking about the Social World (FSSO), and Thinking about the Symbolic World (FSSY). First Seminars that offer extra writing support are offered as FSCC or FSAE. For more information on this, see "SAGES First Seminar Course Selection" (Page 20).

University Seminars: After completion of the First Seminar, students must complete two University Seminars. University Seminars provide continued experience in critical reading, writing, and oral communication as well as information literacy, ethics, and cultural diversity. Each University Seminar explores content determined according to the interests of the faculty. University Seminars must be completed by end of the fourth semester of enrollment. A student's First Seminar and two University Seminars must include a course from each of the three thematic areas: Natural World, Social World, and Symbolic World. Students who complete their First Seminar requirement with FSCC 100, FSCC 110, or FSTS 100 may fulfill their University Seminar requirement by choosing two courses from any two of the three thematic areas.

Writing portfolio: After the completion of the last University Seminar, students must compile a final writing portfolio and submit it to the SAGES office (110 Crawford Hall). The portfolio is due the semester following the student's final University Seminar. The writing portfolio documents a student's progress as a writer over the first three SAGES seminars and provides the University with programmatic feedback that will be used to enhance future seminars.

Departmental Seminar: Students enroll in the Departmental Seminar after completion of University Seminars and the Writing Portfolio. Students ordinarily take this discipline-specific seminar in their third year and often within their major field.

Senior Capstone: As seniors, Case Western Reserve students participate in a one- or two-semester capstone course, culminating in a final written report and a public presentation of their work often at the university-wide celebration of scholarship.

Breadth requirements: All students take additional discipline-specific courses, typically outside their majors, to ensure broad exposure to liberal learning. These courses may be taken throughout a student's undergraduate career. Some degree programs and majors specify that certain courses be taken to fulfill breadth requirements.

Academic Advising

Academic advising is an important component of the educational program at Case Western Reserve University. Academic advisors assist students in the exploration of academic opportunities at the university and in the selection of courses. Advisors may refer students to other sources of information and assistance at Case Western Reserve. Students are expected to initiate and maintain regular contact with their advisors to address the student's curricular and career concerns, and to review progress towards graduation. Students are expected to meet with advisors when declaring a major or minor, before registering for classes each semester, and when making corrections to their academic requirements reports.

Advising during the first year

During a student's first year at Case Western Reserve University, the faculty member instructing the student's SAGES First Seminar serves as the student's academic advisor. Students and their advisors are expected to explore the student's academic interests and concerns, as well as educational and career goals, and to seek expert information and advice about academic policies and procedures and about specific academic programs from the General Bulletin, newsletters, websites, academic representatives in the majors and minors, and other sources of advice and counseling on campus. Staff in the Office of Undergraduate Studies (including the directors of the first-year residential colleges), the University Career Center, Educational Services for Students, the Office of Multicultural Affairs, University Counseling Services, and specialized programs such as Co-op (co-operative education), SOURCE (Support of Undergraduate Research & Creative Endeavors), the Center for International Affairs (study abroad, international student services), Student Activities and Leadership, and the Center for Civic Engagement and Learning (community service) are available to support first-year students and their advisors with publications, workshops, websites, experiential learning opportunities, and individual communications.

Advising in the majors and minors

Although some first-year undergraduates enter with definite goals, they are not assigned advisors in the majors until they have declared their major. Opportunities for exploration of majors and minors during the first and second semesters include a Choices Fair, departmental information sessions, and individual conversations with faculty and academic advisors. First-Year students who are ready to declare a major in their first year may do so beginning in November. Students engaging in further exploration of majors are expected to declare a major before their fifth semester of enrollment.

When a student selects a specific major or minor, the academic representative assigns a faculty advisor. A choice or change of major or minor is not recorded for any student until the major or minor declaration form, bearing the signature of the student, the name of the advisor, and the signature of the academic representative of the major or minor, has been completed and submitted to the Office of Undergraduate Studies, 357 Sears Building.

After the first year, students who have not declared a major should consult their assigned advisor (noted in their online student information) or the academic representative of an academic department of interest for advice and schedule approval.

Advising in the Office of Undergraduate Studies

The deans and advisors in the Office of Undergraduate Studies, including the residential college directors, are available to answer student and faculty questions about university rules, practices, programs, and resources, and to meet with students who are interested in accelerated undergraduate to graduate and professional school programs, academic awards, and fellowship and scholarship opportunities. All students who have not declared a major should consult with their first-year advisor or with one of the advisors in the Office of Undergraduate Studies for advice and schedule approval. Students with interests in health professions and/or law school are encouraged to seek advice from the pre-medical advisor and the pre-law advisor in the Office of Undergraduate Studies.

Determining an Academic Focus for Your First Year

Choosing an academic degree and major is one of the most significant decisions that you will make in college. Consequently, students (and often their families) spend a great amount of time weighing options, considering skills and strengths, and trying to predict the job market. Not surprisingly, making the “right” choice about a major can be a source of considerable stress.

All CWRU students must declare a major before registering for their fifth semester. Many declare a major by the end of their first or beginning of their second year. However, students frequently change their majors and sometimes add majors or minors based upon their evolving interests. There is no “normal” process—it is unique to every individual.

I don't know what I want to be when I grow up.

It is very common for students to be uncertain at this stage in their lives. Hopefully you can take comfort in the fact that the academic degree you choose in college does not lock you into a particular career for the rest of your life. Obviously, certain careers (accountants, doctors, computer programmers) require very specific sets of knowledge and expertise; however, that is not always the case and as such you don't need to worry about choosing the “wrong” major. Students typically choose their majors based on a combination of personal values, interests, skills, and goals. Reflecting on these things is extremely important as you explore and evaluate your options.

How do I choose the path that is best for me?

Determining your academic and career interests is a process. You are more likely to feel confident about your decisions if you are active in the process, keep an open mind, and avail yourself of the many resources available. The exploration process comprises individual reflection and assessment, research, discussion, and perhaps even job shadowing and internships. Case Western Reserve University has a wealth of opportunities, events, services, and faculty and staff dedicated to assist students with the exploration process.

Whether you're committed to a major, exploring widely, or somewhere in between, there are numerous resources available to help you investigate, evaluate, and reach your goals:

If you are fairly certain of your academic interests:

- Your first-year advisor
 - Office of Undergraduate Studies
 - Major/minor academic representatives
 - FYI newsletters
 - Major and career exploration events, such as the Choices Fair held annually in October
 - Career Center
 - Center for Civic Engagement and Learning
 - SOURCE (Support of Undergraduate Research & Creative Endeavors)
 - Faculty/visiting scholar seminars and talks
- Refer to the list of majors and minors on the following page to identify your major(s) and determine which general education requirements correspond to that major.
 - Review the SAGES general education curriculum and first-year schedule development recommendations for that major.
 - If possible, develop a schedule that allows you to test your academic interests and also explore new topics.
 - Discuss your interests with your first-year advisor to verify that you have selected appropriate courses to meet those goals.

If you have a few ideas about your academic interests but are still deciding:

- Follow the suggested steps above for students who are fairly certain, but do this for all majors of interest.
- Look specifically for courses common to all or most of your majors of interest.
- If possible, select one or two topics of interest and look for courses that will allow you to test those interests.
- Discuss your interests with your first-year advisor to verify that you have selected courses appropriate to address your interests.

If you are still exploring your academic interests:

- Review the schedule development recommendations for first-year students exploring academic options and the SAGES general education curriculum.
- Review the fall 2017 course offerings listed in this guide. Virtually all of the courses on the list can be used as general education curriculum requirements.
- Try a course that you know nothing about, that is in a subject you were interested in during high school, or that corresponds to a possible major/career interest.
- Talk with your first-year advisor about your academic interests and skills, and verify that the courses you have selected allow you to explore your interests and meet academic requirements.
- Use the resources listed on this page and throughout the FYR guide to engage actively in the exploration process.

2017-2018 Undergraduate Majors and Minors

Major – program of 10 or more courses (required)

Major* – available only as second major for a BA; may be sole major for a BA if also completing a BS (optional)

Minor – program of 15-18 hours (optional)

General education – For each degree/major, a student must complete the corresponding general education requirements, which can be found in this guide:

- **CAS** = College of Arts and Sciences
- **CSE** = Case School of Engineering
- **FPB** = Frances Payne Bolton School of Nursing
- **WSOM** = Weatherhead School of Management

Subject	Degree(s)	Available as	Gen Ed Requirements
Accounting	BS	Major or Minor	WSOM
Aerospace Engineering	BSE	Major	CSE
Anthropology	BA	Major or Minor	CAS
Applied Data Science	---	Minor	---
Applied Mathematics	BS	Major	CAS
Art Education	BS	Major	CAS
Art History	BA	Major or Minor	CAS
Art Studio	---	Minor	---
Artificial Intelligence	---	Minor	---
Asian Studies	BA	Major or Minor	CAS
Astronomy	BA or BS	Major or Minor	CAS
Banking and Finance	---	Minor	---
Biochemistry	BA or BS	Major or Minor	CAS
Bioethics and Medical Humanities	---	Minor	---
Biology	BA or BS	Major or Minor	CAS
Biomedical Engineering	BSE	Major or Minor	CSE
Business Management	BS	Major or Minor	WSOM
Chemical Biology	BA	Major	CAS
Chemical Engineering	BSE	Major or Minor	CSE
Chemistry	BA or BS	Major or Minor	CAS
Childhood Studies	---	Minor	---
Chinese	BA	Major or Minor	CAS
Civil Engineering	BSE	Major or Minor	CSE
Classics	BA	Major or Minor	CAS
Communication for Health Professionals	---	Minor	---
Cognitive Science	BA	Major or Minor	CAS
Communication Sciences	BA	Major or Minor	CAS
Computer Engineering	BSE	Major or Minor	CSE
Computer Gaming	---	Minor	---
Computer Science	BA	Major or Minor	CAS
Computer Science	BS	Major or Minor	CSE
Creative Writing	---	Minor	---
Dance	BA	Major or Minor	CAS

Subject	Degree(s)	Available as	Gen Ed Requirements
Data Science and Analytics	BS	Major	CSE
Dean's Approved Major	BA	Individually Designed Major	CAS
Dean's Approved Major	BS	Individually Designed Major	WSOM
Dean's Approved Minor	---	Individually Designed Minor	---
Economics	BA	Major or Minor	CAS
Electrical Engineering	BSE	Major or Minor	CSE
Electronics	---	Minor (for BA only)	---
Engineering – Undesignated	BSE	Major	CSE
Engineering Physics	BSE	Major	CSE
English	BA	Major or Minor	CAS
Entrepreneurial Studies	---	Minor	---
Environmental Geology	BA	Major	CAS
Environmental Studies	BA	Major* or Minor	CAS
Ethics	---	Minor	---
Ethnic Studies	---	Minor	---
Evolutionary Biology	BA	Major* or Minor	CAS
Film	---	Minor	---
Finance	BS	Major	WSOM
French	BA	Major or Minor	CAS
French and Francophone Studies	BA	Major or Minor	CAS
Geological Sciences	BA or BS	Major or Minor	CAS
German	BA	Major or Minor	CAS
German Studies	BA	Major or Minor	CAS
Gerontological Studies	BA	Major* or Minor	CAS
History	BA	Major or Minor	CAS
History and Philosophy of Science	BA	Major or Minor	CAS
International Studies	BA	Major	CAS
Italian	---	Minor	---
Japanese	---	Minor	---
Japanese Studies	BA	Major	CAS
Judaic Studies	---	Minor	---
Leadership	---	Minor	---
Marketing	BS	Major or Minor	WSOM
Materials Science and Engineering	BSE	Major or Minor	CSE
Mathematics	BA or BS	Major or Minor	CAS
Mathematics and Physics	BS	Major	CAS
Mechanical Design and Manufacturing	---	Minor	---
Mechanical Engineering	BSE	Major	CSE
Music	BA	Major or Minor	CAS
Music Education	BS	Major	CAS
Natural Sciences	BA	Major* or Minor	CAS
Nursing	BSN	Major	FPB
Nutrition	BA or BS	Major or Minor	CAS

Subject	Degree(s)	Available as	Gen Ed Requirements
Nutritional Biochemistry and Metabolism	BA or BS	Major	CAS
Origins Sciences	BA	Major	CAS
Philosophy	BA	Major or Minor	CAS
Physics	BA or BS	Major or Minor	CAS
Political Science	BA	Major or Minor	CAS
Polymer Science and Engineering	BSE	Major or Minor	CSE
Pre-architecture	BA	Major* or Minor	CAS
Psychology	BA	Major or Minor	CAS
Public Health	---	Minor	---
Public Policy	---	Minor	---
Religious Studies	BA	Major or Minor	CAS
Russian	---	Minor	---
Social Justice	---	Minor	---
Social Work	---	Minor	---
Sociology	BA	Major or Minor	CAS
Spanish	BA	Major or Minor	CAS
Sports Medicine	---	Minor	---
Sports Nutrition	---	Minor	---
Statistics	BA or BS	Major or Minor	CAS
Systems and Control Engineering	BSE	Major or Minor	CSE
Systems Biology	BS	Major	CAS
Teacher Education	BA	Major*	CAS
Theater	BA	Major or Minor	CAS
Women's and Gender Studies	BA	Major or Minor	CAS
World Literature	BA	Major or Minor	CAS

Preparing for Course Registration

The following several sections of the guide will prepare you to register for fall semester courses. You are expected to explore course options for fall semester, place courses in your shopping cart, and have any questions addressed before the registration period (July 11-14) begins. Keep in mind that the staff in Undergraduate Studies is here to help.

Begin the process by reviewing the information below. Some of these items are addressed more thoroughly in other sections of the guide. Please refer back to them as necessary.

Explore your interests

Students enter their first year of college with varying degrees of certainty regarding their academic focus. However, many students will change their major(s) one or more times before they graduate. Interests will change as you have new experiences, are exposed to new ideas, and continue to develop as an individual. You are strongly encouraged to take courses in your first year that allow you to test current interests as well as explore completely new topics.

Consider non-academic commitments

It is important to find balance in your life. Make time for friends and family, daily tasks, and wellness (e.g. exercising or attending a place of fellowship/worship). If you will be working or commuting, you will need to set aside time for those commitments as well. Consider the amount of time you are likely to spend participating in extracurricular activities. Use this information to help craft your schedule and make choices about days, times, types of courses, and number of credit-hours.

Consider the type of schedule that works for you

Are you most productive and alert in the morning, afternoon, or evening? Do you get bored after sitting for long periods of time? Would you do better with long blocks of classes or with small breaks in between each class? When would you like to have your classes, your study time, and your time to relax?

Keep in mind that you won't always get your ideal schedule. Course availability and offerings can vary. It is best to remain flexible and always think of alternate courses or sections of a course (if available) to make the registration process easier.

Consider placement information and earned credit

You will want to consider the impact that placement exam results and earned course credit will have on your course selection. You should complete the math diagnostic, regardless of your intended major. If you plan to take a course in Chinese, French, German, Russian, or Spanish in the fall semester, you should also complete a language placement exam. These exams can be found on the New Student Checklist. The results of these will help you understand the level at which you should begin your study. (Languages that do not have a placement exam have general placement recommendations listed on Page 33).

By now, you should have reviewed the AP/IB and evaluation of college credit items on the New Student Checklist. It is important that you complete these items to ensure that CWRU can receive and post your credit by the beginning of registration, especially if you plan on using this credit as a prerequisite for a course you wish to take fall semester. You can view the AP/IB scores that CWRU has on file for you on the New Student Checklist. Scores for AP/IB exams will not be available until after July 1. We will receive them electronically and post them as soon as they are received from the testing agencies.

You can review AP and IB placement information (Pages 30-32) to get an idea of what credit you will likely receive. This will determine where you begin in course sequences or which courses will be available to you based on prerequisites. Note: If you choose to repeat a course for which you have already earned credit, you will forfeit the credit earned for the CWRU credit (i.e. you can only earn credit for a course once).

Review schedule development recommendations

Now that you have thought about your interests, commitments, and the type of schedule that will fit you best, you should start looking at sample first semester schedules. You should also review the following information:

- general education requirements and first-year schedule development recommendations that correspond to your academic major(s) of interest (beginning on Page 58)
- SAGES First Seminar Course Selection (Page 20)
- recommendations for first-year students interested in professional health sciences or law school (Pages 35-39)
- advice for choosing an appropriate math, chemistry, or physics course (Pages 21-24)
- enhanced course opportunities (Page 26)

Explore first-year course offerings

Now that you have an idea of what courses you will need and/or are likely to take, you should begin learning more about them. There are two tools that you will use to do this: 1) the fall 2017 course offerings list, Pages 44-48, and 2) the schedule of classes accessed through the Student Information System (SIS). As you browse the first-year course offerings list and identify courses of interest, use the schedule of classes to review course descriptions, enrollment information, prerequisites and co-requisites, and days and times.

Use SIS tools to plan your fall schedule

In this section, you will find guidelines of how to use the schedule of classes in SIS and place courses in your shopping cart. The shopping cart is a tool you will use to help plan your fall schedule. You can place as many courses as you like in your shopping cart (e.g. multiple sections of a course or various options for a general education course). However, you will only be registering for three to four courses using SIS during the open registration period (July 11-14). Through the New Student Checklist you will indicate your preferences among the available SAGES First Seminars, also during the open registration period. You will learn in the course registration section (Pages 50-55) how to indicate from the list of courses in your shopping cart the courses in which you would like to enroll.

A note about SAGES First Seminar

All first-year students will take First Seminar in the fall semester. In addition to regular meeting days/times, which will vary by First Seminar, every First Seminar will have regularly scheduled out-of-class activities that take place during fourth hour (Monday, Wednesday, or Friday from 12:45 - 2 p.m.). Because all students must have this time reserved in their schedules, we have put a placeholder on all first-year students' schedules (FSCC 850). This placeholder is weighted the same (four credit-hours) as your First Seminar will be, and reserves the fourth hour time block on your schedule. During the First Seminar placement process, this placeholder will be removed from your schedule and your actual First Seminar will be added.

Questions about course registration?

As you begin reviewing curricular requirements and course offerings, it is likely questions will arise. This is your opportunity to begin exercising a skill that will serve you very well as a CWRU student: asking for help. The FYR guide will answer many of your questions, but keep in mind that the Office of Undergraduate Studies is here to help (summerreghelp@case.edu or 216.368.2928).

Using SIS to Explore Course Options

STEP 1: Log in to the Student Information System (SIS)

To access the Schedule of Classes, log in to the Student Information System. You will enter your CWRU network ID and password. If this is your first time entering SIS, the confidentiality agreement will appear. Read through the statement and check the box next to “I have read, understand and will comply with this agreement.” Once you agree to the confidentiality statement, you will be taken to your SIS homepage, which will look like the sample below.

Important notes:

1. Do not use the back button on your browser while using SIS.
2. Courses that are offered Monday, Wednesday, and/or Friday between 12:45 - 2 p.m. are not available to first-year students in fall 2017 because all first-year students must be available for SAGES First Seminar activities at that time (in addition to the specific meeting times of the First Seminar to which you are assigned). You will see that FSCC 850-100 is already on your schedule in order to reserve this time.

STEP 2: Click the search link or the search for classes button to begin searching for classes.

Holds appear here.

Once an advisor is assigned to you, his or her name will appear here.

Search

SEARCH FOR CLASSES

Holds

Advisor

Sample Student ID: 8888888

Academics

Search

SEARCH FOR CLASSES

Holds

Registration Advising Hold

details

My Account

We are unable to display your account at this time. To access this information, contact the Bursar's office to complete your account profile.

Flag

■ Billed Due	0.00
■ Not Yet Billed	0.00
■ Anticipated Aid	0.00

To Do List

No To Do's.

Milestones

No Milestones

Enrollment Dates

Shopping Cart Appointment

Your Shopping Cart for the Fall 2017 Regular Academic Session is available for use beginning March 1, 2017.

Enrollment Appointment

You may begin enrolling for the Fall 2017 Regular Academic Session on April 19, 2017.

Personal Information

Contact Information

Permanent	Local
None	None
Home Phone	Email
None	noreply@case.edu

Advisor

Program Advisor

None Assigned

Sample Student

go to ... ▾ >>

Search

Plan

Enroll

My Academics

My Advisors

search for classes

browse course catalog

Search for Classes

Enter Search Criteria

Search for Classes

Institution ▾
 Term ▾

STEP 3: Verify that the institution is **Case Western Reserve University** and the term is **fall 2017**.

Select at least one search criteria. Click Search to view your search results.

Class Search

Course Subject
 Catalog Number ▾
 Course Career

STEP 4: Enter a **course subject** code and **catalog number** if available. The course subject code is a four-letter code that is an abbreviated reference to the subject (i.e. Physics = PHYS). If you do not know the course subject code, click the **select subject** button to view an alphabetical listing of course subject codes. Leave catalog number blank to view all available courses in that department.

Academic Group ▾
 Show Open Classes Only
 Use additional search criteria to narrow your search results
 Meeting Start Time ▾
 Meeting End Time ▾
 Days of Week ▾
 Mon Tues Wed Thurs Fri Sat Sun

STEP 5: Verify that "undergraduate" is the **course career**.

Degree Requirement Category ▾
 Instructor Last Name ▾
 Class Number
 Title Keyword
 Catalog Description And Or
 Minimum Units ▾
 Maximum Units ▾
 Course Component ▾
 Campus ▾
 Building ▾
 Course Attribute ▾
 Mode of Instruction ▾
 Requirement Designation ▾

CLEAR

SEARCH

STEP 6: Click the **search** button.

Sample Student

go to ... ▾ >>

[Search](#) | [Plan](#) | [Enroll](#) | [My Academics](#) | [My Advisors](#)
 search for classes | browse course catalog

Search for Classes

Search Results

When available, select View All Sections to see all sections of the course.

Case Western Reserve Univ | Fall 2017

[My Class Schedule](#)

You are not registered for classes in this term.

[Shopping Cart](#)

Your shopping cart is empty.

The following classes match your search criteria Course Subject: **Physics**, Course Number contains '121', Course Career: **Undergraduate**, Show Open Classes Only: **No**

START A NEW SEARCH

Open
 Closed
 Wait List

PHYS 121 - General Physics I - Mechanics

[Course Evaluations](#)

Section [100-LEC\(1282\)](#)

Status Open

[Textbook](#) [select class](#)

Session Regular

Days & Times	Room (Capacity)	Instructor	Meeting Dates	Topic
MoWeFr 11:40AM - 12:30PM	To Be Scheduled	Corbin Covault	08/28/2017 - 12/08/2017	

Exam Type	Exam Date	Exam Starting Time	Room (Capacity)
Final	12/18/2017	3:30pm-6:30pm	

Section [110-LAB\(1283\)](#)

Status Open

[Textbook](#) [select class](#)

Session Regular

Days & Times	Room (Capacity)	Instructor	Meeting Dates	Topic
Th 8:30AM - 11:30AM	Rockefeller 404 (32)	Diana Driscoll	08/28/2017 - 12/08/2017	

STEP 7: View class attributes.

- Course status key
- Course number and title
- Status: open or closed?
- Days and times
- Type of course and section number. Course type could read:
 - CLIN (Clinical)
 - LAB (Laboratory)
 - LEC (Lecture)
 - REC (Recitation)
 - SEM (Seminar)
- Multiple sections available? Some classes have multiple sections on different days of the week or different times of the day.

STEP 8: Click on the section to read the course description and enrollment requirements.

[Search](#) | [Plan](#) | [Enroll](#) | [My Academics](#) | [My Advisors](#)
 search for classes | browse course catalog

Search for Classes

Class Detail

PHYS 121 - 100 General Physics I - Mechanics

[Course Evaluations](#)

Case Western Reserve Univ | Fall 2017 | Lecture

[Textbook](#)

[VIEW SEARCH RESULTS](#) | [SELECT CLASS](#)

Class Details

Status	Open	Course ID	004508
Class Number	1282	Offer Nbr	1
Session	Regular Academic Session	Career	Undergraduate
Units	4 units	Dates	8/28/2017 - 12/8/2017
Instruction Mode	In Person, Traditional	Grading	Regular Grades
Class Components	Laboratory Required, Lecture Required	Location	Main Campus
		Campus	Case Western Reserve Univ

Meeting Information

Days & Times	Room	Instructor	Meeting Dates
MoWeFr 11:40AM - 12:30PM	To Be Scheduled	Corbin Covault	08/28/2017 - 12/08/2017

Exam Type	Exam Date	Exam Time	Room (Capacity)
1 Final	12/18/2017	3:30pm-6:30pm	

Enrollment Information

Class Attributes Available for Senior Citizen and Alumni Audit

Class Availability

Class Capacity	352	Wait List Capacity	0
Enrollment Total	0	Wait List Total	0
Available Seats	352		

Repeat for Credit Rules

Repeat for Credit	No	Total Units Allowed	4.00
Allow Multiple Enroll in Term	No	Total Completions Allowed	1

Notes

Class Notes Enrolling in a PHYS 121 laboratory should automatically place you in the PHYS 121 lecture. The calculus prerequisite for this course is not enforced only because SIS cannot check high school records. You should not enroll in PHYS 121 unless you have taken a year of high school calculus or completed MATH 121 or MATH 125 at CWRU.

Description

Particle dynamics, Newton's laws of motion, energy and momentum conservation, rotational motion, and angular momentum conservation. This course has a laboratory component. Recommended preparation: MATH 121 or MATH 123 or MATH 125 or one year of high school calculus. Students who do not have the appropriate background should not enroll in PHYS 121 without first consulting the instructor. Students may earn credit for only one of the following courses: PHYS 115, PHYS 121, PHYS 123.

[VIEW SEARCH RESULTS](#) | [SELECT CLASS](#)

- STEP 9:** Review additional course attributes.
- Required and optional components may be a part of each course offering.
 - Pre-requisites and/or co-requisites will be listed.
 - Number of seats left in the class
 - The department may provide additional notes about the class.
 - There is also a course description provided.


STEP 10: Click **view search results** to return to the previous page.

STEP 11: Repeat steps 3-10 for each course you are considering. Then proceed to step 12 to begin placing courses in your shopping cart.

Placing Courses in Your Shopping Cart

As you identify courses that you would like to take this fall, you can add your selections to your shopping cart in SIS. As you go through this process, consider your academic interests and make note of any questions that you have regarding your first-semester schedule. Be sure to contact the Undergraduate Studies staff at summerreghelp@case.edu if you need assistance.

Favorites ▾ Main Menu ▾

 **CASE WESTERN RESERVE UNIVERSITY** EST. 1826

Sample Student >>

Search Plan Enroll My Academics My Advisors

search for classes | browse course catalog

Search for Classes

Search Results

When available, select View All Sections to see all sections of the course.

Case Western Reserve Univ | Fall 2017

[My Class Schedule](#) | [Shopping Cart](#)

You are not registered for classes in this term. | Your shopping cart is empty.

The following classes match your search criteria Course Subject: **Physics**, Course Number contains '**121**', Course Career: **Undergraduate**, Show Open Classes Only: **No**

[START A NEW SEARCH](#)

Open Closed Wait List

▼ **PHYS 121 - General Physics I - Mechanics** [Course Evaluations](#)

First 1-13 of 13 Last

Section [100-LEC\(1282\)](#) Status Textbook [select class](#)

Session Regular

Days & Times	Room (Capacity)	Instructor	Meeting Dates	Topic
MoWeFr 11:40AM - 12:30PM	To Be Scheduled	Corbin Covault	08/28/2017 - 12/08/2017	

Exam Type	Exam Date	Exam Starting Time	Room (Capacity)
Final	12/18/2017	3:30pm-6:30pm	

Section [110-LAB\(1283\)](#) Status Textbook [select class](#)

Session Regular

Days & Times	Room (Capacity)	Instructor	Meeting Dates	Topic
Th 8:30AM - 11:30AM	Rockefeller 404 (32)	Diana Driscoll	08/28/2017 - 12/08/2017	

STEP 12: From the search results screen, click the **select class** button.

Sample Student

go to ... ▾ >>

Search Plan Enroll My Academics My Advisors

search for classes || browse course catalog

Search for Classes

Add to Shopping Cart - Enrollment Section

Fall 2017 | Undergraduate | Case Western Reserve Univ

PHYS 121 - General Physics I-Mechanics

Lecture selected: Section 100
MoWeFr 11:40AM - 12:30PM To Be Scheduled

● Open ■ Closed ▲ Wait List

	Class Nbr	Section	Component	Schedule	Room	Instructor	Status
<input type="radio"/>	1283	110	Laboratory	Th 8:30AM - 11:30AM	Rockefeller 404	D. Driscoll	●
<input type="radio"/>	1284	111	Laboratory	Th 1:00PM - 4:00PM	Rockefeller 404	D. Driscoll	●
<input type="radio"/>	1285	112	Laboratory	We 3:20PM - 6:20PM	Rockefeller 404	D. Driscoll	●
<input type="radio"/>	1286	113	Laboratory	We 6:30PM - 9:30PM	Rockefeller 404	D. Driscoll	●
<input type="radio"/>	1287	114	Laboratory	Th 8:30AM - 11:30AM	Rockefeller 404	D. Driscoll	●
<input type="radio"/>	1288	115	Laboratory	Th 1:00PM - 4:00PM	Rockefeller 404	D. Driscoll	●
<input type="radio"/>	2174	117	Laboratory	Tu 1:00PM - 4:00PM	Rockefeller 404	D. Driscoll	●
<input type="radio"/>	2577	118	Laboratory	Th 5:30PM - 8:30PM	Rockefeller 404	D. Driscoll	●
<input type="radio"/>	2578	119	Laboratory	Th 5:30PM - 8:30PM	Rockefeller 404	D. Driscoll	●
<input type="radio"/>	2588	120	Laboratory	Tu 8:30AM - 11:30AM	Rockefeller 404	D. Driscoll	●
<input type="radio"/>	2589	121	Laboratory	Tu 5:30PM - 8:30PM	Rockefeller 404	D. Driscoll	●
<input type="radio"/>	3027	125	Laboratory	Tu 8:30AM - 11:30AM	Rockefeller 404	D. Driscoll	●

STEP 13: Click **next** to add the selection to your shopping cart.

NOTE: If you select a class that has multiple components, (e.g., a lecture course that requires a lab or a recitation), SIS will prompt you to add the additional components to your shopping cart at this point, as in the adjacent photo. You must enroll in an open recitation/lab/discussion section to enroll in an open lecture section. Recitation/lab/discussion sections are small and may reach capacity. Therefore, you may want to add multiple alternate sections (using the process outlined in earlier steps) to your shopping cart in case your first choice fills during the registration period.

CANCEL NEXT

Sample Student

go to ... ▾ >>

Search Plan Enroll My Academics My Advisors

my planner || shopping cart || course history

Shopping Cart

STEP 14: To view the contents of your **shopping cart**, click "Plan" then "shopping cart."

Sample Student go to ... ▾ >>

Search Plan Enroll My Academics My Advisors
my planner shopping cart course history

Shopping Cart

Add Classes to Shopping Cart

Use the Shopping Cart to temporarily save classes until it is time to enroll for this term. Select Validate to have the system check for possible conflicts prior to enrolling.

STEP 15: Review the classes in your shopping cart.

Fall 2017 | Undergraduate | Case Western Reserve Univ change term

Open Closed Wait List

STEP 16: To search for more classes to add to your Shopping Cart, click the **search** button. This will return you to **STEP 3**.

Add to Cart:

Enter Class Nbr
 enter

Find Classes

Class Search
 My Planner

search

schedule planner

Select	Class	Description	Days/Times	Room	Instructor	Units	Status
<input type="checkbox"/>	PHYS 121-111 (1284)	General Physics I-Mechanics (Laboratory)	Th 1:00PM - 4:00PM	Rockefeller 404	D. Driscoll	4.00	●
<input type="checkbox"/>	PHYS 121-100 (1282)	General Physics I-Mechanics (Lecture)	MoWeFr 11:40AM - 12:30PM	To Be Scheduled	C. Covault		●

for selected: delete validate enroll

IMPORTANT:

Make sure to **validate** your courses to check for possible time conflicts or missing pre-requisites. Validate again 2-3 days prior to registration.

If you added a class that you no longer want, select it and click **delete** to remove it from your shopping cart.

You will be asked to update your emergency contact information in SIS the first time you log in after July 1 before being allowed to complete any other actions. To avoid any interference with registration, please log in at least once before July 11 and follow the prompts to update this information.

STEPS FOR COMPLETING THE REGISTRATION PROCESS CAN BE FOUND ON PAGE 51.

SAGES First Seminar Course Selection

First Seminar is an important foundational academic experience in which all first-year students will participate during their first semester. First Seminars are small (17 students or fewer) interdisciplinary courses that promote active engagement and discussion, are writing intensive, and help students develop skills that promote critical thought and academic inquiry. Each First Seminar is led by a faculty member who also serves as the students' first-year advisor. Under this system, students receive guidance from professors who have observed their academic performance firsthand and with whom they interact frequently, inside and outside the classroom.

In addition to the three weekly hours of classroom time, First Seminar includes fourth-hour time that permits a range of additional experiences and activities including visits to the scientific and cultural institutions of University Circle. Regardless of the regular meeting time of a student's First Seminar, fourth hour will take place either Monday, Wednesday, or Friday from 12:45 - 2 p.m.

First-Year students may not register for courses that take place during fourth hour (12:45 - 2 p.m. Monday, Wednesday, or Friday) and will therefore have a temporary placeholder course (FSCC 850) that reserves this time slot on their schedule, as well as the four credit-hours associated with First Seminar. This course will be replaced with the actual First Seminar once assigned in August.

During the registration period (July 11-14) you will register for all of the courses you plan to take during the fall semester using SIS, except SAGES First Seminar. Because we want to make sure that students are placed into a First Seminar that matches with their interests and curiosities, registration for SAGES First Seminar is done differently. You should first enroll in courses using SIS, and then after doing so navigate to the New Student Checklist to access the SAGES First Seminar Placement item. The item will provide you with a link to a site that will generate for you a list of SAGES First Seminars that are available to you based on your enrollments in SIS (i.e. seminars that do not conflict with the rest of your schedule).

After carefully reviewing the list of seminars and their descriptions, you will indicate four seminars that you would be interested in taking this fall. After the registration period has closed and the Office of Undergraduate Studies has reviewed all students' schedules, you will be enrolled in one of the four seminars in which you have indicated an interest. The seminar will appear on your schedule in SIS and replace the FSCC 850 placeholder.

With regard to the SAGES First Seminar selection process, please note the following:

- You can preview the list of available SAGES First Seminars and course descriptions in the Schedule of Classes by searching under the FSNA, FSSO, and FSSY "Course Subject" codes. Keep in mind that seminars will continue to be added in the weeks leading up to registration, so you may want to review the list again at a point in time closer to the opening of the registration period. Based on your interest in certain seminars, you may choose to arrange your schedule (if possible) to make a seminar available to you. However, note that this does not guarantee being enrolled in a specific First Seminar; it simply makes enrollment a possibility.
- Indicating your preferences for a SAGES First Seminar is a two-step process that begins with enrolling in courses other than First Seminar using SIS. The list of available seminars generated through the New Student Checklist is truncated based on your availability.
- You can revise your SAGES First Seminar selections any time during the registration period. Therefore, if you opt to make a change to your schedule in SIS after making your First Seminar selections, you will need to revise your First Seminar selections.

Because you are simply indicating preferences and not enrolling (and because this is not a first-come, first-served process), you should take your time and make intentional choices when indicating your preferences.

First Seminars that provide additional writing support

Students have the option to indicate a preference for a First Seminar with a particular focus on the writing process (FSCC 110). You should make this preference known as part of the preparation of the writing sample and reflection on the text you produced on the New Student Checklist. You will be enrolled in one of these First Seminars based upon the rest of your course schedule and do not need to go through the course selection described above.

International students

International students will complete a writing sample after arriving on campus for New Student Orientation. After the review of your writing sample you will either 1) be enrolled into a section of First Seminar focused on academic English, designed specifically for non-native speakers of English who would benefit from additional preparation for the expectations of college-level writing or, 2) you will be prompted to select from the list of regular First Seminars. Because your First Seminar options will not be known until you've completed the writing sample, you do not need to go through the selection process described above.

Making the most of your First Seminar selections

As a general rule, students tend to perform better and are more engaged in courses that align with their interests, whether or not those interests are related to any particular major or program. Taking the time to carefully read the First Seminar course descriptions and identify those that stand out to you is a critical step in your future academic success. As you do this, consider the following:

- Your interest in and affinity for a First Seminar topic is much more important than the time of day that the seminar is offered. Choose seminars that "speak" to you regardless of the time of day.
- First Seminars are not necessarily designed to be connected to a specific academic major, minor, or program, so you do not need to find seminars that you feel are related to your intended major. Instead, they may provide a way to explore or extend a secondary interest or avocation.
- Varsity athletes should choose First Seminars that do not conflict with practice times.

Selecting a Math Course

The steps below are designed to assist you with the process of determining in which math course you should enroll in your first semester. This addresses not only the appropriate math sequence, but also the appropriate course level. Students should first consult the schedule development recommendations for the major(s) they intend to pursue.

MATH 121 is the first of a four-course calculus sequence (MATH 121, 122, 223, and 224) and is required for engineering and most (but not all) Bachelor of Science degrees in the College of Arts and Sciences. MATH 125 is the first of a two-course calculus sequence and is required for many majors in the life, managerial, and social sciences. Pre-Health students should choose math courses based on their intended major. There are a few different ways to tell which course/sequence is right for you. First, review the schedule development recommendations for the major(s) in which you are interested; the recommended calculus course (if applicable) should be listed. Second, if you are planning on taking certain math courses beyond Calculus II (e.g. Calculus III or Differential Equations) you should take MATH 121, as MATH 125/126 is designed for students who do not need to complete more than two semesters of calculus for their major. You can use the General Bulletin to view required courses for your intended major(s) and review course descriptions to check prerequisites.

Eligible students with credit are encouraged to attempt the next course in the sequence. Those who are concerned about the strength of their background or would like to review the material of the first course in the sequence are permitted to repeat the course if desired. However, students should feel comfortable attempting a higher level course at the beginning of the semester. The first two weeks of each semester comprise the drop/add period, during which students in higher-level courses may opt to change their enrollments to a lower-level course if they feel that the initial course is too challenging. It will be easier for students to move to a lower-level course after beginning in a higher-level course.

Note: Choosing to enroll in a course for which one already has AP, IB, or transfer credit means forgoing credit for the AP, IB, or transfer course.

Finally, if you are considering multiple majors that recommend MATH 121 or MATH 125, taking MATH 121 will provide you with the most flexibility as MATH 121/122 can be used as a substitute for MATH 125/126, whereas the opposite is not true. However, if you are fairly certain that you will not be pursuing an engineering or BS in the College of Arts and Sciences that requires MATH 121 and do not expect to take more math, MATH 125 would be the appropriate choice.

1. Based on the results of the math diagnostic, at which level are you to begin your study of math at CWRU?
 - a. MATH 121 or 125 – Go to #2
 - b. MATH 120 – **Enroll in MATH 120**¹
2. Are you pursuing an engineering or BS in the College of Arts and Sciences?
 - a. Yes – Go to #3
 - b. Maybe – Go to #3
 - c. No – See the schedule recommendations for your intended major.
Students with credit for MATH 121 can enroll in MATH 126 (if required by the major). Students with credit for MATH 121 and 122 will have satisfied the calculus requirements for a major that requires MATH 125 and 126.
3. Did you take an AP/IB calculus exam or a college-level calculus course?
 - a. No – Enroll in Math 121
 - b. Yes – AP Calculus – Go to #4
 - c. Yes – IB Calculus – Go to #5
 - d. Yes – Transfer credit:
 - i. Credit for Math 121 – **Enroll in Math 122**
 - ii. Credit for Math 122 – **Enroll in Math 223**
 - iii. Credit for Math 223 – **Enroll in Math 224**
4. Did you take AP Calculus AB or BC?
 - a. AB – Go to #6
 - b. BC – Go to #7
5. Did you receive a score of 5, 6, or 7 on the IB Mathematics HL exam?
 - a. Yes – **You have earned credit for Math 121; can enroll in Math 122**
 - b. No – **No credit earned; enroll in Math 121**
6. Did you receive a score of 4 or 5 on the AP Calculus exam?
 - a. Yes – **You have earned credit for Math 121; can enroll in Math 122**²
 - b. No – **No credit earned; enroll in Math 121**
7. What was your score?
 - a. 4 or 5 – **You have credit for Math 121 & 122; can enroll in Math 223**²
 - b. AB sub-score of 4 or 5 – **You have earned credit for Math 121; can enroll in Math 122**²
 - c. 1, 2, or 3 with AB subscore of less than 4 – **No credit earned; enroll in Math 121**

Students who are planning to take the math diagnostic again during new student orientation may want to avoid registering for courses which would conflict with the MATH 121 or 125 recitation day/time (Tuesdays or Thursdays 11:35 a.m. - 12:25 p.m.). This will help to facilitate any potential schedule changes.

Students interested in self-study should feel free to explore and use any available resources. The CWRU Department of Mathematics, Applied Mathematics, and Statistics has identified [aleks.com](https://www.aleks.com) as a possible option. The fee-based service generates a study plan based on an individual assessment, and students move through the program by demonstrating mastery of each topic.

Students who wish to verify whether a course to be taken at another college or university is equivalent to MATH 120 at CWRU should be in touch with the Office of Undergraduate Studies at summerreghelp@case.edu or 216.368.2928.

¹Students whose score on the diagnostic places them into pre-calculus will have the opportunity to take it again when they arrive on campus in August. Students who believe they would benefit from self-study or completion of a college-level pre-calculus course over the summer are encouraged to do so, but this is not required or expected. Students should feel comfortable beginning their study of mathematics at CWRU in MATH 120.

²Students who received a 4 on the AP Calculus AB or BC exams may want to consider repeating Math 121 (AB) or Math 122 (BC). Historically, students with a 4 on either exam have averaged a grade of "C" when moving ahead to Math 122 (AB) or Math 223 (BC).

Selecting a Chemistry Course

There are two general chemistry sequences: CHEM 105-106 and CHEM 111-ENGR 145. CHEM 113 is the general chemistry lab associated with the CHEM 105-106 sequence. Students should consult the schedule development recommendations for their intended major to learn whether or not CHEM 113 is required. Note that all students completing pre-health requirements must earn credit for CHEM 113.

Students pursuing a degree in the College of Arts and Sciences that requires general chemistry should complete the CHEM 105-106 sequence. Students pursuing a degree in the Case School of Engineering and the BS in computer science should complete the CHEM 111-ENGR 145 sequence. Both sequences fulfill pre-health requirements, so students planning to fulfill these requirements should pursue the chemistry sequence required for their major.

The process of selecting a chemistry course begins with reviewing the schedule recommendations for all majors of interest. If a student has not decided between a degree in the School of Engineering and the College of Arts and Sciences, the student should select the appropriate course from the CHEM 111-ENGR 145 sequence as this provides the greatest flexibility in satisfying requirements for both degrees.

Choosing the appropriate level of chemistry course

Students with no college-level credit for general chemistry will begin in either CHEM 105 or CHEM 111.

Students who have earned college-level credit for a chemistry course (AB/IB exams or college-level coursework being the most common means) may be eligible to take the next course (CHEM 106 or ENGR 145) in the sequence depending on the credit earned. See AP and IB credit information within this guide or refer to college credit evaluation correspondence from Undergraduate Studies.

We encourage eligible students with credit to attempt the next course in the sequence. Those who are concerned about the strength of their background or would like to review the material of the first course in the sequence are permitted to repeat the course if desired. However, students should feel comfortable attempting a higher level course at the beginning of the semester. The first two weeks of each semester comprise the drop/add period, during which students in higher-level courses may opt to change their enrollments to a lower-level course if they feel that the initial course is too challenging. It will be easier for students to move to a lower-level course after beginning in a higher-level course.

Note: choosing to enroll in a course for which one already has AP, IB, or transfer credit means forgoing credit for the AP, IB, or transfer course.

Students who are completing pre-health requirements should review AP and IB credit in the Recommendations for Students Interested in Pre-Health section of this guide.

Criteria for awarding of chemistry credit:

1. **AP Chemistry** – Score of 4 or 5 earns a student credit for CHEM 111; students may enroll in either CHEM 106 or ENGR 145
2. **IB Chemistry** – Score of 5, 6, or 7 (HL exam only) earns a student credit for CHEM 111; students may enroll in either CHEM 106 or ENGR 145.
3. **General chemistry coursework taken at an accredited college or university** – Course credit awarded after review in the Office of Undergraduate Studies. Placement to be determined by credit earned. Students who wish to earn credit for college-level coursework should have completed and submitted the college credit evaluation form, available on the New Student Checklist.
4. **Proficiency exams in chemistry** – The department of chemistry will offer proficiency exams for CHEM 105, 106, and 111 during new student orientation. All students will have the option to sit for an exam if desired. Students who pass a proficiency exam will earn CWRU credit for that course and be permitted to take the next course in the sequence. More information can be found in the placement and proficiency exams section of this guide.

Selecting a Physics Course

Students who are pursuing an engineering degree or certain Bachelor of Science degrees in the College of Arts and Sciences majors will normally take PHYS 121 and 122. Engineering majors will take PHYS 121 in either the first or second semester; consult the schedule development recommendations for guidance. Students pursuing a BS in the College of Arts and Sciences that requires PHYS 121 may or may not be advised to take PHYS 121 & 122 in their first year; consult the schedule development guidelines for guidance.

- The recommended preparation for PHYS 121 is MATH 121 or a year of high-school calculus. Students should be comfortable with integral and differential calculus before enrolling in PHYS 121.
- Students who have credit for PHYS 121 through AP or IB are eligible to enroll in PHYS 122 if they also have credit for MATH 121 and enroll in (or have credit for) MATH 122.
- Students who have credit for PHYS 115 from the AP Physics B or Physics-1 exam must still take PHYS 121 if required for their intended major.

The PHYS 115-116 sequence is directed primarily toward students working towards a BA in science, with an emphasis on the life sciences. Students pursuing majors that require this sequence do not typically take physics until their second or third year of study.

Both sequences fulfill the pre-health physics requirements. Students should select the sequence specified by the major they intend to pursue and should seek the advice of their academic advisor before pursuing an alternate sequence. Students pursuing a major that does not require physics may choose either sequence but should have the appropriate background in calculus (MATH 121 or a year of high school calculus) before starting the PHYS 121-122 sequence.

Students who are invited to take Enhanced Physics (PHYS 123 and 124) may use these courses to fulfill requirements for PHYS 121 and 122 or PHYS 115 and 116. For more information, please see the enhanced course options section of this guide.

We encourage students with appropriate AP, IB, or transfer credit to attempt the second course in one of these introductory physics sequences. Those who are concerned about the strength of their background and would prefer to take the first course in one of these sequences may do so. The first two weeks of each semester comprise the drop/add period, during which students in higher-level courses may opt to change their enrollments to a lower-level course if they feel that the initial course is too challenging. It will be easier for students to move to a lower-level course after beginning in a higher-level course.

Note: Choosing to enroll in a course for which one already has AP, IB, or transfer credit means forgoing credit for the AP, IB, or transfer course.

Selecting a General Education Course

In addition to the seminars taken as part of the SAGES program, all students, regardless of major, will take a number of general education courses to fulfill breadth requirements as part of their undergraduate degrees. While the breadth requirements across the College of Arts and Sciences, the Case School of Engineering, the Frances Payne Bolton School of Nursing, and the Weatherhead School of Management are very similar, some specifics vary by school. When beginning the process of selecting a general education course, students should refer to the appropriate page in this guide to review the breadth requirements of the school through which their intended or likely major is offered. Even if you are unsure about a major, it should not be hard to identify courses that will apply flexibly regardless of eventual major.

Students with any previous course credit (AP, IB, or college-level) should review the specific course credit that will be awarded and how this may be applied toward meeting general education breadth requirements, (though students often take additional courses in breadth areas as electives).

Depending on the breadth category, either a specific set of courses or a set of subject areas will be listed as fulfilling that requirement. For example, in the College of Arts and Sciences, a limited number of specific courses can be taken to fulfill the quantitative reasoning requirement. However, ANY course within the subject areas listed in the Arts and Humanities section may satisfy that requirement. This means that any three- or four-credit-hour ARTH course for which a student has credit, regardless of level, may count toward fulfilling the Arts and Humanities requirement.

Enhanced Course Opportunities

Case Western Reserve University offers enhanced versions of math and physics courses. Please read the descriptions listed below. Enhanced course opportunities are not required or preferred for a major. Both the standard and enhanced calculus and physics courses offer exceptional preparation and learning opportunities for students; the enhanced courses provide an alternative for students with particularly strong preparation. Invitations are required and will be sent via students' CWRU webmail account in early July. Participation is completely voluntary. Students who are invited to participate should think carefully about whether or not they would prefer to study course material in the ways described below.

MATH 124 – Calculus II and MATH 227 – Calculus III

- MATH 124 is an alternative to MATH 122, and MATH 227 is an alternative to MATH 223.

MATH 121 is the regular first semester course in the standard science and engineering calculus sequence. This course covers functions, limits, derivatives of algebraic and trigonometric functions, related rates, applications of the derivative, definite integrals, antiderivatives, and fundamental theorem of calculus.

MATH 122 is the regular second semester course in the standard science and engineering calculus sequence. Calculus of a single variable is covered. MATH 124 also covers calculus of a single variable but is taught with more emphasis on the underlying theory. Students taking this course should have a high level of computation proficiency and a willingness to be challenged. Having a well-grounded theoretical understanding of the first semester (MATH 121 or equivalent; see the course description on the schedule of classes) of single variable calculus is a plus.

MATH 223 is the regular third semester course in the standard science and engineering calculus sequence. Calculus of several variables is covered. MATH 227 also covers calculus of several variables but with more emphasis on the underlying theory. The material is covered in more depth and includes some linear algebra. Having a well-grounded theoretical understanding of single variable calculus is a plus.

The enhanced calculus sequence is intended to provide deeper preparation to strong prospective math, science and engineering students with an in-depth understanding of complex phenomena. The enhanced math sequence covers the same material in MATH 121, 122, and 223 but covers these topics in greater depth with an emphasis on the underlying mathematical concepts. If you have questions about these courses or would like help deciding, you may contact Professor Chris Butler at christopher.butler@case.edu.

Prerequisites: Invitation only. Students who enroll in MATH 124 must have credit for MATH 121; students who enroll in MATH 227 must have credit for MATH 122.

PHYS 123 – Physics and Frontiers

- PHYS 123 is an alternative to PHYS 121.

PHYS 123 is the first of a two-course sequence in the "enhanced" introductory sequence. PHYS 123 is an option for students who are interested in physics, possibly but not necessarily as a major. A central goal in this class is to learn to "think like a physicist," to cultivate methods to solve a wide range of problems. In addition to the standard Newtonian dynamics, the course incorporates a series of frontier lectures on fractals and chaos theory. As in PHYS 121, there is an associated series of laboratory experiments, with certain experiments tailored to the special topics covered in PHYS 123, including a chaos experiment. Students who have earned AP credit for PHYS 121 will forfeit that credit if they opt to enroll in PHYS 123. PHYS 123 is designed to make this an attractive option for students interested in physics. Further details about this course option can be found at https://artscimedia.case.edu/wp-content/uploads/sites/175/2016/03/14222147/Is_PHYS123_RightForYou_2016.pdf.

Prerequisites: Invitation only. Students who have successfully completed calculus and physics during high school and who have demonstrated a strong mathematics background on standardized entrance exams will be considered for invitation. Students planning to pursue a physics, math and physics, and/or engineering physics major are especially encouraged to consider enrolling in Physics 123.

Registration Frequently Asked Questions

How many classes/credit-hours should I be taking in my first semester?

The answer to this question will vary depending on your intended major(s), any earned credit (AP, IB, or college-level) and other personal factors. However, generally speaking, students should expect to register for 14-17 credit-hours their first semester, including SAGES First Seminar (four credit-hours). This means that you will register for three to four courses during the July 11-14 registration period. (SAGES First Seminar will be added to your schedule later. See SAGES First Seminar Course Selection on Page 20.) Undergraduates can take at most 19 credit-hours per semester without special permission, but the ordinary, recommended schedule is 14-17 credit-hours. First-Year students are not permitted to take more than 19 credit-hours in their first semester.

What if I am interested in more than one major?

First, review the Determining an Academic Focus for Your First Year section of this guide. As you review the schedule development recommendations for the majors in which you are interested, take note of any courses that are recommended for all majors. Also take note of any recommended courses that are part of a sequence or are prerequisites for courses that are recommended in the second semester. Each set of schedule development recommendations includes both fall and spring semesters. Students who have credit for many of the recommended courses can use the General Bulletin as a resource for looking further ahead in the required curriculum. Reviewing this information first can give you an idea of which courses you may choose to prioritize. Finally, if you are considering majors that are subject to different sets of general education requirements, take note of any requirements that apply toward both majors.

It is not always an easy task to plan a schedule that can apply toward more than one major. There may come a point when you need to make decisions about courses that make your schedule less balanced and more focused toward one than the other. Keep in mind you do not have to do everything your first semester. There will be many opportunities to take courses of interest in the future, and there are many ways to explore academic interests beyond taking courses in that subject.

Can I have two majors? What about two degrees?

You can complete two or more Arts and Sciences majors within the 120-hour minimum requirement for the BA or two or more engineering majors within the 128-133-hour minimum requirement for the BS in engineering, or two or more management majors within the 122-hour minimum requirement for the BS in management. These are referred to as double majors.

If you would like to pursue two or more majors that fall within different degree programs, you can complete one of those majors with the associated general education requirements of its degree program and another field as a "secondary major." In this case you will earn the degree for which you completed general education requirements, but your second major will also be noted on your transcript and diploma.

Another option is to pursue a dual degree program completing the major requirements and the associated general education requirements of both degrees (e.g. a BA in music and a BS in Engineering with a major in civil engineering). To earn two degrees, in addition to meeting all major and general education requirements, you must complete an additional 30 credit-hours of study for the second degree. This means a minimum of 150 credit-hours earned. You should expect that a second degree will require an extra year of coursework. However, if you enter CWRU with a significant amount of credit through AP, IB, or college coursework, this may allow you to complete two degrees within a period of time closer to eight semesters.

What is the difference between a BA and a BS?

Depending on the degrees in question, the differences can vary. In general, Bachelor of Arts degrees are characterized by breadth and flexibility in that they allow students to gain knowledge through in-depth study of a discipline or disciplines while providing opportunities to explore other areas of interest. Bachelor of Science degrees also provide breadth but may require more focus on specific courses related to the discipline. Some majors are only offered as a BA or BS, while others provide students with a choice between the two. Though your intended major may provide you with the option, this is not usually something you need to decide in the first semester. The Schedule Development Recommendations in this guide will provide you with any applicable distinctions in coursework in the first year if applicable. To get a sense of the differences between the two curricula, you can consult the General Bulletin. If you have questions about this, contact Undergraduate Studies.

Do I have to take every course that is listed on the schedule development recommendations for a major?

Not always. Some majors have required or sequenced courses that, if not taken, could have implications for the courses you can take in subsequent semesters (e.g. a fall course that is a prerequisite for a course recommended in spring semester). If you opt to not take one of these courses, make sure you understand how this will impact your progress in the major. However, there are other recommended courses that do not necessarily have to be taken in the first semester. This can be helpful if you are considering multiple majors or simply want to reduce the number of courses you are taking to make your semester more manageable. If you have questions about this, contact Undergraduate Studies for help.

What is a credit-hour?

For courses in lecture format, one credit-hour represents the subject content that can be delivered in one academic hour of contact time each week for the full duration of one academic semester, typically 14 weeks along with a final examination period. For undergraduate courses, one credit-hour also includes associated work that can be completed by a typical student in two to three hours of effort outside the classroom. For courses taught in other than lecture format (e.g., seminars, laboratories, independent study, clinical work, research, etc.), one credit-hour represents an amount of content and/or student effort that in aggregate is no less than that described above.

I see that both MATH 121 and MATH 125 are listed as Calculus I. Which one should I take?

Review the Selecting a Math Course section beginning on Page 21.

I am a pre-health/law student. How do I know what to schedule for my first semester?

Pre-professional interests are not the same as majors. Students who plan to attend a professional school (medicine, dentistry, pharmacy, law, etc.) will choose a major and fulfill degree requirements in the same manner as all other undergraduates while simultaneously fulfilling any curricular requirements to prepare them for entry into a professional program. Information and recommendations for scheduling based on these interests can be found within this guide.

The schedule development recommendations for my major suggest I take a course, but I already have credit for it. What should I take instead?

The Scheduled Development Recommendations sections of the guide should include notes to address these questions. If you have viewed this information and still have questions, contact Undergraduate Studies.

What is a prerequisite/corequisite?

A prerequisite is a requirement that must be satisfied before a student is permitted to enroll in a course. For example, you must have credit for MATH 121 before you can enroll in MATH 122. A corequisite is a required course that must be taken along with another course, unless a student has already earned credit for that course. For example, CHEM 105 is a corequisite for BIOL 214. If you want to enroll in BIOL 214 you must also enroll in CHEM 105 unless you have credit for CHEM 105 through AP, IB or transfer credit. (Important note: Any AP, IB, or college credit must be received by CWRU and posted in SIS in order to use this credit as a prerequisite or corequisite.) See the relevant sections of the New Student Checklist for information regarding this credit.

What if I don't meet the prerequisite for a course? Can I still take it?

Generally, no. The exception to this is a course that requires instructor consent, which you can request through the "Schedule Change Request" item on the New Student Checklist beginning July 5. Course prerequisites are put in place because the faculty assume enrolled students will have learned the material presented in the prerequisite course(s). Prerequisites are not arbitrary obstructions, but rather intentional learning paths. Therefore, you should not expect to enroll in a course for which you have not met the prerequisites. Additionally, SIS will not allow you to do so. This is why it is important that you have all prior credit earned (AP, IB, or transfer credit) sent to Undergraduate Studies in advance of registration.

How do I know if CWRU received my AP, IB, or college credit?

As this credit is received and evaluated, the status of this credit will be updated on the New Student Checklist. You should review these items carefully for information regarding the process of having this credit received, reviewed, and posted (if applicable). It is important to have this credit sent to CWRU as soon as possible so that it can be evaluated and posted before registration begins. Score reports for students who have indicated CWRU as a recipient of AP and IB exam results will be sent to us electronically in early July. Credit will appear in the "Course History" section of your SIS account once posted.

I took an AP, IB, or college course in high school but did not receive credit at CWRU. What can I do?

If your AP or IB exam scores do not qualify you to earn credit, or the college coursework you took does not meet the transfer eligibility requirement, there are other options. Proficiency exams are offered in math, chemistry, physics, and computer science. Students can earn course credit by passing what is equivalent to the final exam for that course. These exams will be offered during new student orientation. Information about these exams can be found in this guide. If you took college courses that meet the CWRU requirements for transfer eligibility but were not awarded credit, refer to the correspondence received from Undergraduate Studies for further information. Occasionally courses require further review by a department before credit is awarded.

What is an Arts and Humanities, Natural and Mathematical Sciences, Social Science, Quantitative Reasoning, or Global and Cultural Diversity course?

Each of these refers to a category of general education requirements. When reviewing the general education requirements for your intended major(s), you will find that one or more of these categories will be listed, along with an indication of the number of courses and credit-hours required to fulfill this requirement. Listed under each category heading will be a series of course departments or specific courses that can be used to fulfill this requirement. Categories that list only course departments (e.g. Arts and Humanities) will allow any three- to four-credit-hour course within that department to count toward that requirement.

I have AP, IB, or college credit for a course. Should I use it and move ahead or repeat the course at CWRU?

This is a common question that has unique answers for each student. Some students are apprehensive about moving ahead in a course sequence or taking an upper-level course because they have questions about whether or not they are truly prepared. Only you can know whether or not using the credit you've earned to move ahead or repeating a course is in your best interest. How well you are able to learn the material presented in a higher-level course will not only depend on your preparation but also on your study skills and ability to utilize the resources around you (faculty office hours, tutoring, supplemental instruction sessions, etc.). Therefore, there isn't a way to predict student success or for an advisor to tell you what you should do.

The first two weeks of the semester are designated as a drop/add period. Students are free to drop and add courses during this period before having to finalize their schedules. You can register for and sit in on a class for the first week or two and "test drive" it before making a final decision. Let's say you decide to use the AP credit you've earned for MATH 121 and take MATH 122 in the fall semester. If after the first week of the course, during which time you'll have the opportunity to review the course syllabus, talk with

your professor, and look over the course materials, you decide that MATH 122 is not an appropriate course for you, you can drop MATH 122 and add MATH 121 instead. This is a common strategy for students with questions about whether or not to use AP, IB, or college credit to take a higher-level course because it allows them to learn first-hand what the course is like before making a decision to use the credit, whereas simply not using the credit and repeating a course does not. Regardless of the work done before, your goal should be to ensure that you are prepared for the next course in the CWRU sequence. Note that repeating a course for which you have already earned credit means giving up the credit previously earned. It will be easier for students to move to a lower-level course after beginning in a higher-level course.

Who is my advisor? When will I meet my advisor?

Your first-year advisor will be the faculty member instructing your SAGES First Seminar. You will meet your first-year advisor at new student orientation, both in a group setting and also individually. Advisors help students make the most of their CWRU experience by providing information and guidance. They will work with you to develop an understanding of your interests, talents, and aspirations. First-Year advisors are familiar with policies and procedures and will help you successfully navigate the university. Upon declaring a major, you will be assigned an advisor who is a faculty member from the department in which you have declared your major. First-Year students may declare a major no sooner than Nov. 1, 2017. More information about Academic Advising can be found on Page 6.

There are two courses I want to take but they're offered at the same time. Can I register for both?

You cannot register for two courses that meet at the same time or have overlapping meeting times. If one of the courses has multiple sections, see if another section will fit your schedule. You may have to adjust other courses on your schedule to accommodate an alternate section. In cases where this is not possible, you will have to make a decision about which course is a priority and plan to take the other course in a future semester.

What if a course requires instructor consent?

Use the "Schedule Change Request" form on the New Student Checklist to request consent for the course. Do not request consent through the SIS permission page. You should review course prerequisites in advance of registration and request consent July 5-10 to ensure timely review and processing of these requests in advance of registration. (Note: submission of a request does not guarantee approval. Undergraduate Studies will contact you if the request cannot be approved.)

I only have 15 minutes between classes. Will that be enough time to (eat/get to my next class/prepare for my next class)?

The answer varies depending on where your classes are being held and how much time is available in between them. Generally, 15 minutes between classes should be enough to make it from one to another. If possible, you should consider leaving yourself a larger block of time (about an hour) at some point during the day for meals and to give yourself a break.

What if a class I need/want to take is full?

Generally we are able to ensure that incoming first-year students are able to register for courses they need for an intended major. If a required course is full, you should use the "Schedule Change Request" on the New Student Checklist to request a seat in the course. Do not request permission to enroll in a closed course through the SIS permission page. The "Schedule Change Request" item will remain open during the registration period (July 11-14) and be reviewed shortly thereafter. During the period which students' schedules are reviewed (July 17-28), Undergraduate Studies will review students' requests and make adjustments to their schedules if possible. Students should check their CWRU webmail frequently during the schedule review period, as Undergraduate Studies may need to contact you about these requests. There are cases in which a course that a student wants to take (e.g. a general education course, elective, or course of interest) is full. For situations like this, we ask that you find an alternate course to take instead and plan to take that course in a future semester.

What if I want to join a musical ensemble during my first semester?

All CWRU students are welcome to participate in our music ensembles. A full list of ensembles can be found at music.case.edu/ensembles. There are gateway auditions for several of the primary ensembles, which include Orchestra, Symphonic Winds or Wind Ensemble, and Concert Choir. Other ensembles require placement auditions. Auditions are held the first week of class. Interested students should contact the director via email or attend the first class meeting. Learn more by visiting music.case.edu/incoming-students/.

What if a course I wish to take has variable credit-hours?

There are a limited number of courses that will give you the option to select the number of credit-hours you wish to receive for the course when enrolling. You will most commonly see this with musical ensemble courses. These courses will give you the option to enroll for zero or one credit-hour. If you need the course to count toward a major or minor requirement, you should take the course for one credit-hour. Otherwise, you have the option to take it for either zero or one. In both cases, you will receive an evaluative grade in the course. However, if you take a course for zero credits, the final grade will not be factored into your GPA. You are required to be enrolled in a course to participate. (Note: If you wish to use MUEN 384 – Spartan Marching Band to fulfill a physical education requirement, you must take it for zero credits.)

Another possible instance of this may occur if you are registering for a research course or independent study. In these cases, you should contact the instructor of the course to understand the appropriate number of credits in which you should enroll. Any questions about this can be directed to Undergraduate Studies for assistance.

What if I change my mind about my major after I register?

Access to SIS will close at 11:59 p.m. EDT July 14, 2017 and not reopen until after students have met with their first-year advisors during new student orientation. If you change your mind about your intended major after having registered for fall courses and your decision fundamentally alters your schedule for the fall, notify Undergraduate Studies immediately. If the intended new major requires minimal schedule changes, you can wait until new student orientation to address your concerns. New student orientation provides you with the opportunity to review your schedule with your first-year advisor and make changes to your schedule at that time.

Advanced Placement (AP) Course Equivalencies

Advanced Placement credit may be used to replace specific courses for purposes of general education/core curricula, major, or minor requirements. Credit and exemption will be given only for AP examinations taken prior to matriculation. Credit will be posted on a student's record during the first semester of enrollment. If, after matriculation at CWRU, a student completes a course for which she or he received credit/exemption on the basis of AP, the AP credit/exemption for that course will be forfeited and will not count toward graduation requirements.

In preparation for course registration, please make arrangements for all AP score reports to be sent to the Office of Undergraduate Studies at Case Western Reserve University. Make sure to review this item on the New Student Checklist to ensure that your scores have been received. Generally, AP scores are available in early July. Scores for students who selected CWRU as a recipient will be sent directly from the College Board to CWRU as soon as they are available. The policies regarding the awarding of credit for Advanced Placement Examinations of The College Board are reviewed annually by departments and are subject to change.

Subject/Exam	Score	Credit Earned	CWRU Equivalent/Exempt	Placement
AP RESEARCH	---	---	CWRU does not award credit for AP Research.	---
AP SEMINAR	---	---	CWRU does not award credit for AP Seminar.	---
ART HISTORY	4 or 5	3 hours	ARTH 100-TR (This credit cannot be used to satisfy requirements for a major or minor in art history.)	ARTH 101
ART STUDIO Drawing Portfolio	4 or 5	3 hours	ARTS 106 or 216 (Final credit awarded to be determined after portfolio review by art studio program director.)	
ART STUDIO 2-D Design Portfolio	4 or 5	3 hours	ARTS 101 or 216 (Final credit awarded to be determined after portfolio review by art studio program director.)	
ART STUDIO 3-D Design Portfolio	4 or 5	3 hours	ARTS 100-TR, 201, 210, or 214 (Final credit awarded to be determined after portfolio review by art studio program director.)	
BIOLOGY	4	3 hours	BIOL 114	
	5	3 hours	BIOL 200-TR (Will satisfy the BIOL 114 requirement for the nursing major.)	
CHEMISTRY	4 or 5	4 hours	CHEM 111 (This course will meet a requirement of CHEM 105 or 111.)	CHEM 106 and 113; or ENGR 145
CHINESE	4	6 hours	CHIN 201 and 202	CHIN 301
	5	9 hours	CHIN 201, 202, and 301	CHIN 302
COMPUTER SCIENCE Computer Science A	4 or 5	3 hours	EECS 132	EECS 233 or 281
ECONOMICS Macroeconomics	4 or 5	3 hours	ECON 103	
ECONOMICS Microeconomics	4 or 5	3 hours	ECON 102	
ENGLISH Language/Composition	4 or 5	3 hours	ENGL 200-TR*	
ENGLISH Literature/Composition	4 or 5	3 hours	ENGL 200-TR*	
*A maximum of three credit-hours will be awarded for AP English scores and only after successful completion of a three-credit-hour 300-level ENGL course with a grade C or better.				
ENVIRONMENTAL SCIENCE	4 or 5	3 hours	EEPS 100-TR	
FRENCH	4 or 5	6 hours	FRCH 201 and 202	300-level FRCH
GERMAN	4 or 5	6 hours	GRMN 201 and 202	300-level GRMN
GOV & POLITICS Comparative Politics	4 or 5	3 hours	POSC 160	

Subject/Exam	Score	Credit Earned	CWRU Equivalent/Exempt	Placement
GOV & POLITICS U.S. Government	5	3 hours	POSC 109 (Three credit-hours as POSC 109 will be awarded for AP U.S. Government scores only after successful completion of a 300-level U.S. politics course with a grade of B or better.)	
HISTORY European History	---	---	CWRU does not award credit for European History.	---
HISTORY U.S. History	---	---	CWRU does not award credit for U.S. History.	---
HISTORY World History	---	---	CWRU does award credit for World History.	---
HUMAN GEOGRAPHY	4 or 5	3 hours	ANTH 100-TR (This credit cannot be used to satisfy requirements for a major or minor in anthropology.)	
ITALIAN	4 or 5	6 hours	ITAL 201 and 202	300-level ITAL
JAPANESE	4	6 hours	JAPN 201 and 202	JAPN 301
	5	9 hours	JAPN 201, 202, and 301	JAPN 302
LATIN	4 or 5	3 hours	LATN 202	300-level LATN
MATHEMATICS Calculus AB	4 or 5	4 hours	MATH 121*	MATH 122 or 126
MATHEMATICS Calculus BC	AB subscore = 4 or 5	4 hours	MATH 121*	MATH 122 or 126
	4 or 5	8 hours	MATH 121 and 122*	MATH 223
*Credit for MATH 121 will meet a requirement for MATH 121 or 125. Credit for MATH 122 will meet a requirement for MATH 122 or 126.				
MUSIC THEORY	4 or 5	3 hours	MUTH 103 (This credit cannot be used to satisfy requirements for any music major program.)	
PHYSICS Physics 1	4 or 5	4 hours	PHYS 115*	PHYS 116
PHYSICS Physics 2	4 or 5	3 hours	PHYS 100-TR*	
PHYSICS Physics B	4 or 5	4 hours	PHYS 115*	PHYS 116
PHYSICS Physics C-Mech	4 or 5	4 hours	PHYS 121*	PHYS 122
PHYSICS Physics C-E&M	4 or 5	3 hours	PHYS 100-TR*	
*Students planning to major in physics are strongly advised to take a CWRU mechanics course (PHYS 121 or 123). A student may not receive credit for more than one of the following: Physics 1, Physics B, or Physics C-Mechanics (forfeiting the credit if they take PHYS 115, 121, or 123). A student also may not receive credit for more than one of the following: Physics 2 or Physics C-E&M (forfeiting the credit if they take PHYS 116, 122, or 124). Students who earned a 4 or 5 on their AP Physics exam, but who had little or no high school laboratory experience should consult with the department about taking PHYS 113A to build their laboratory skills before moving on to PHYS 116 or 122.				
PSYCHOLOGY	4 or 5	3 hours	PSCL 101	
SPANISH Spanish Language	4 or 5	6 hours	SPAN 201 and 202	300-level SPAN
SPANISH Spanish Literature	4 or 5	6 hours	SPAN 202 and 300-TR	300-level SPAN
STATISTICS	5	3 hours	STAT 201	

International Baccalaureate (IB) Course Equivalencies

International Baccalaureate (IB) credit may be used to replace specific courses for purposes of general education/core curricula, major, or minor requirements. Credit and exemption will be given only for IB examinations taken prior to matriculation. Case Western Reserve University offers course credit for scores of 5, 6, and 7 for most Higher Level (HL) examinations. Credit will be posted on a student's record during the first semester of enrollment. If, after matriculation at CWRU, a student completes a course for which she or he received credit/exemption on the basis of IB, the IB credit/exemption for that course will be forfeited and will not count toward graduation requirements.

In preparation for course registration, please make arrangements for all IB score reports to be made available to Case Western Reserve University. Examination results are usually available in early July and sent to CWRU electronically. If you have taken an examination that is not listed below, please contact the Office of Undergraduate Studies at 216.368.2928. The policies regarding the awarding of credit for International Baccalaureate Examinations are reviewed annually by departments and are subject to change.

Subject/Exam	Score	Credit Earned	CWRU Equivalent/Exempt	Placement
Biology	HL 5, 6, or 7	3 hours	BIOL 200-TR	
Chemistry	HL 5, 6, or 7	4 hours	CHEM 111 (This course will meet a requirement of either CHEM 105 or 111.)	CHEM 106 and 113; or ENGR 145
Chinese	HL 6	6 hours	CHIN 201 and 202	300-level CHIN
	HL 7	9 hours	CHIN 201, 202, and 300-TR	300-level CHIN
Computer Science	HL 5, 6, or 7	3 hours	EECS 132	EECS 233 or 281
*CWRU does not award credit for Computer Science Principles .				
Economics	HL 5, 6, or 7	6 hours	ECON 102 and 103	
English Language A	HL 5, 6, or 7	3 hours	WLIT 290	
French B	HL 6	6 hours	FRCH 201 and 202	300-level FRCH
	HL 7	9 hours	FRCH 201, 202, and 300-TR	300-level FRCH
German B	HL 6	6 hours	GRMN 201 and 202	300-level GRMN
	HL 7	9 hours	GRMN 201, 202, and 300-TR	300-level GRMN
Italian	HL 6	6 hours	ITAL 201 and 202	300-level ITAL
	HL 7	9 hours	ITAL 201, 202, and 300-TR	300-level ITAL
Japanese	HL 6	6 hours	JAPN 201 and 202	300-level JAPN
	HL 7	9 hours	JAPN 201, 202, and 300-TR	300-level JAPN
Mathematics	HL 5, 6, or 7	7 hours	MATH 121 and 100-TR (Credit for MATH 121 will meet a requirement for either MATH 121 or 125.)	MATH 122 or 126
Music	HL 5, 6, or 7	6 hours	MUTH 103 and MUGN 201 (Credit for these courses cannot be used to satisfy requirements for any music major program.)	
Physics	HL 5, 6 or 7	7 hours	PHYS 121 and 100-TR*	PHYS 122
*Students with a deep interest in or planning to major in physics should consider forfeiting their IB credit and taking PHYS 123. A student who enrolls in PHYS 115, 121, or 123 will forfeit IB credit for PHYS 121, and a student who enrolls in PHYS 116, 122, or 124 will forfeit IB credit for PHYS 100-TR. Students who earned a 5, 6, or 7 on their IB Physics exam but who had little or no high school physics laboratory experience should consult with the department about taking PHYS 113A to build their laboratory skills before moving on to PHYS 116 or 122.				
Psychology	HL 5, 6 or 7	3 hours	PSCL 101	
Social and Cultural Anthropology	HL 5, 6 or 7	3 hours	ANTH 102	
Spanish B	HL 6	6 hours	SPAN 201, 202	300-level SPAN
	HL 7	9 hours	SPAN 201, 202, 300-TR	300-level SPAN
Theater Studies	HL 5, 6, or 7	3 hours	THTR 228	THTR 229
Visual Arts	HL 6 or 7	3 hours	ARTS 101	

Placement and Proficiency Examinations

Mathematics Placement

Math placement at Case Western Reserve University is made on the basis of several indicators. First, CWRU requires that all students take the math diagnostic that assesses preparation and readiness for enrollment in calculus. Students are required to complete the exam even if they have earned or anticipate earning credit for calculus, or plan to pursue a major that does not require calculus.

The math diagnostic is available through the New Student Checklist and should be completed by June 23.

Beyond the diagnostic exam, math placement may also be influenced by calculus credit earned through AP, IB, or college coursework. Information about AP and IB equivalencies can be found within this guide. Students who wish to have college-level courses taken while in high school evaluated for CWRU credit should follow the process outlined on the New Student Checklist.

For more information about math placement, see the Selecting a Math Course section (Pages 21-22) within this guide.

Modern Language Placement

Although there is no university language requirement, all students are encouraged to continue or to begin the study of a foreign language. Students wishing to participate in study abroad in a non-English-speaking country may want to enroll in foreign language study in their first year. More information about study abroad can be found in this guide. Native speakers of languages other than English may not enroll in courses in their native language without special permission from Undergraduate Studies and the Department of Modern Languages and Literatures.

Students who have studied Chinese, French, German, Russian, or Spanish and want to continue studying the language during the fall semester must take the online WebCAPE language placement exam. The test, which usually takes 15-30 minutes and is accessed through the New Student Checklist.

Note that no credit is awarded based on a WebCAPE exam. Also, if you do not plan to enroll in a language course until a later semester, you should not take the WebCAPE test now but rather postpone a placement test until you are ready to enroll in a language course. Finally, if you have AP or IB credit that provides a language placement, you do not need to take a WebCAPE exam.

Students enrolling in Arabic, Hebrew, Italian, Japanese, or Portuguese should use the guidelines below and then attend a class meeting to talk further with the professor about placement issues. Students should follow the guidelines listed below when developing their schedules this summer. Final placement in foreign language courses will be determined after consultation with the course instructor during drop/add period.

Years of Study in High School	Equivalent College-level Language Course
0 years experience	101-level
1-2 years of experience	102-level
2-3 years of experience	201-level
3-4 years of experience	202-level

Writing Sample

All students must complete the online writing sample provided on the New Student Checklist by July 1.

Further instructions on completing this task are provided on the New Student Checklist, including the option for interested students to indicate a preference for a First Seminar with a particular focus on the writing process. The writing sample will be provided to your First Seminar professor so that she or he has a sense of your reading and composition skills. This writing sample will not be graded, nor will it earn you Case Western Reserve University credit, or appear on your official transcript. You do not need to prepare for this writing sample.

Proficiency Examinations for Case Western Reserve University Course Credit

Proficiency examinations allow students to receive credit for a Case Western Reserve University course by passing an examination for that course. These examinations are optional, and are intended for first-year students of high ability who have taken advanced work in high school (beyond the normal high school level) or who have studied a subject independently, but who may not have had the opportunity to take AP or IB exams, or did not earn transfer credit for a course. For students passing proficiency exams, credit will be indicated on the transcript by the symbols PR. No letter grade is given and proficiency credit does not count toward the GPA.

The following proficiency exams will take place during new student orientation:

Chemistry

Consult the new student orientation schedule for date, time, and location.

This exam is recommended for students who have had two or more years of chemistry in high school but did not take the AP examination or IB examination in chemistry. Examinations will be given for CHEM 105, CHEM 106, and CHEM 111. Students who wish to take a proficiency examination in chemistry must register by email at least 24 hours in advance with Dr. Drew Meyer at dam135@case.edu.

Computer Science

Consult the new student orientation schedule for date, time, and location.

An examination will be given for ENGR 131 and EECS 132. Students may choose to take one or the other. The ENGR 131 exam is recommended for students who are familiar with elementary computer programming (any language) and who have not received credit for ENGR 131 or EECS 132. ENGR 131 is required of all engineering students (except computer science and computer engineering) and some other majors (e.g., physics), but EECS 132 will substitute for the ENGR 131 requirement.

The EECS 132 exam is recommended for students who are familiar with computer programming in Java and with object-oriented programming, including advanced topics (e.g., templates). EECS 132 is required for computer science, computer engineering, and systems biology majors.

Students wishing to take either of the exams must register for them at least 72 hours in advance by emailing the exam coordinators as follows:

- ENGR 131: Professor Chris Fietkiewicz, cx47@case.edu
- EECS 132: Professor Harold Connamacher, hsc21@case.edu

More details on the courses and the proficiency exams can be found at eecs.case.edu/introcomputing.

Mathematics

Consult the new student orientation schedule for date, time, and location.

This exam is recommended for students who have had calculus in high school but did not take the AP or IB examinations, or students who took college-level calculus courses but did not earn transfer credit. Examinations will be given for MATH 121, MATH 122, MATH 223, and MATH 224. Students who wish to take a proficiency examination in mathematics must register by email at least 24 hours in advance with Professor Christopher Butler at cx10@case.edu.

Physics

Consult the new student orientation schedule for date, time, and location.

This exam is recommended for students who studied college-level physics in high school but did not receive AP, IB, or transfer credit. Examinations will be given for PHYS 115, 116, 121, 122, and 221. Students who wish to take a proficiency examination in physics must register by email at least 24 hours in advance with Professor Gary Chottiner at gsc2@case.edu.

The physics proficiency exams are similar to the final exams given in each course; problems are modeled on those of past final exams and on homework problems from texts used in these courses. To receive proficiency credit, performance on the exam must be equivalent to or better than a high C grade in the course (in the neighborhood of 70 percent). A description of the material covered by each exam, a sample exam for each course offered, as well as additional issues to consider regarding the proficiency exams can be found at <http://physics.case.edu/undergraduate-programs/introductory-physics/physics-proficiency-exams/>. Students passing the PHYS 116 or PHYS 122 proficiency exam will need to make arrangements to complete the lab portion of the physics course. Detailed options are described on the physics website listed above.

Recommendations for First-Year Students Interested in Pre-Health

Pre-medical, pre-dental, and other pre-professional health science students are encouraged to explore and to pursue academic fields they enjoy and in which they will perform well. To meet the admission requirements of professional health science schools, a student may major in any subject, but must include certain prerequisite courses in their undergraduate curricula. Both Bachelor of Arts and Bachelor of Science programs provide strong preparation for professional health science schools.

Although there are requirements for all professional health science programs, there is also a considerable amount of variation in the prerequisites beyond the general core (e.g., some pharmacy schools require a course in economics, others do not; many, but not all, physician assistant programs require a course in medical terminology). Consequently, as a first-year student it is not possible to anticipate every requirement you will need to complete, and it is important to work with Mr. Wes Schaub (pre-medicine) and Dr. Steven Scherger (pre-health other than medicine) to identify unique program requirements and when they should be fulfilled.

General requirements for most professional health science schools include:

- 2 semesters of inorganic chemistry with lab
- 2 semesters of organic chemistry with lab
- 2 semesters of biology with lab
- 2 semesters of physics with lab
- 1 semester of biochemistry
- 2 semesters of English composition
- 1-2 semesters of calculus
- 1 semester of statistics
- 1-2 semesters of behavioral sciences

AP and IB credit

If you receive AP or IB credit for courses that are science requirements for professional health science schools, be aware that some programs do not accept such credits. It is most common with the biology and chemistry requirements. However, this does not mean you should waive such credit and repeat the courses at CWRU. Professional schools prefer applicants who challenge themselves as undergraduate students. Therefore, if you feel you are ready to take the next course beyond the one for which you received credit, it would be to your advantage to accept the AP or IB credit and take more advanced courses at the undergraduate level. For example, if you receive AP credit for CHEM 111 (which meets the requirement of CHEM 105), and you feel ready to take CHEM 106 in your first semester, you should plan to take an advanced course in chemistry or biochemistry in your second or third year in order to replace the AP credit.

Recommended course sequences

The recommended sequences of courses for pre-health science students are listed below for various academic areas. These sequences cover the general requirements for most professional health science schools and prepare students to take the professional school admission examinations (e.g. MCAT, DAT, PCAT, OAT) at the end of their junior year.

Biological and Chemical Science Majors (BA and BS)			
Year	Fall Semester	Spring Semester	Other Coursework
First Year	MATH 125 (or 121) CHEM 105 BIOL 214/214L ¹	MATH 126 (or 122) CHEM 106 BIOL 215/215L ¹	<ul style="list-style-type: none"> • CHEM 113 should be taken either fall or spring semester of the first year. • SAGES Seminars cover English composition requirement. • PSCL 101 and SOCI 101 should be taken by the end of the third year. • One course in Statistics³ by the end of the third year if possible, but the fourth year is okay.
Second Year	CHEM 223 (or 323) CHEM 233 BIOL 216/216L ¹	CHEM 224 (or 324) CHEM 234	
Third Year	PHYS 115 (or 121) BIOC 307 or CHEM 328 ²	PHYS 116 (or 122)	

Mathematical and Physical Science Majors (BA and BS)			
Year	Fall Semester	Spring Semester	Other Coursework
First Year	MATH 121 (or 125) CHEM 105 PHYS 121 (or 115)	MATH 122 (or 126) CHEM 106 PHYS 122 (or 116)	<ul style="list-style-type: none"> • CHEM 113 should be taken either fall or spring semester of the first year. • SAGES Seminars cover English composition requirement. • PSCL 101 and SOCI 101 should be taken by the end of the third year. • One course in Statistics³ by the end of the third year if possible, but the fourth year is okay.
Second Year	CHEM 223 (or 323) CHEM 233 BIOL 214/214L ¹	CHEM 224 (or 324) CHEM 234 BIOL 215/215L ¹	
Third Year	BIOL 216/216L ¹ BIOC 307 or CHEM 328 ²		

Engineering Majors			
Year	Fall Semester	Spring Semester	Other Coursework
First Year	MATH 121 CHEM 111 PHYS 121 ⁴	MATH 122 ENGR 145 PHYS 122	<ul style="list-style-type: none"> • CHEM 113 should be taken either fall or spring semester of the first year. • SAGES Seminars cover English composition requirement. • PSCL 101 and SOCI 101 should be taken by the end of the third year. • One course in Statistics³ by the end of the third year if possible, but the fourth year is okay.
Second Year	CHEM 223 (or 323) CHEM 233 BIOL 214/214L ¹	CHEM 224 (or 324) CHEM 234 BIOL 215/215L ¹	
Third Year	BIOL 216/216L ¹ BIOC 307 or CHEM 328 ²		

Arts, Humanities, and Social Science Majors			
Year	Fall Semester	Spring Semester	Other Coursework
First Year	CHEM 105 MATH 125	CHEM 113 CHEM 106	<ul style="list-style-type: none"> • CHEM 113 should be taken either fall or spring semester of the first year. • SAGES Seminars cover English composition requirement. • PSCL 101 and SOCI 101 should be taken by the end of the third year. • One course in Statistics³ by the end of the third year.
Second Year	CHEM 223 (or 323) CHEM 233 BIOL 215/215L ¹	CHEM 224 (or 324) CHEM 234 BIOL 216/216L ¹	
Third Year	PHYS 115 (or 121) BIOC 307 or CHEM 328 ²	PHYS 116 (or 122)	

Other courses of interest

The list below contains fall 2017 courses that will allow you to enhance your knowledge of various health-related or professional development topics. These courses are not required, but are suggested for additional personal and professional development during your undergraduate career. A more extensive list of courses beyond your first semester will be provided at the Pre-Health Welcome Sessions during orientation in August.

- ANTH 102 – Being Human: An Introduction to Social and Cultural Anthropology
- ANTH 215 – Health, Culture, and Disease: An Introduction to Medical Anthropology
- BETH 210 – Perspectives on Health: Intro to Medical Humanities & Social Medicine
- BETH 271 – Bioethics: Dilemmas
- COGS 101 – Introduction to Cognitive Science
- COSI 109 – Introduction to Communication Disorders
- EBME 105 – Introduction to Biomedical Engineering
- NTRN 201 – Nutrition
- PSCL 230 – Child Psychology
- PHED 60B – CPR/First Aid

¹Although most professional health science schools require only two semesters of general biology, students should take the third semester of the BIOL 214, 215, 216 sequence. Material from all three courses is covered on the MCAT and DAT. Students should take at least two labs from BIOL 214L, 215L, and 216L. Biomedical engineering students do not need to take BIOL 216 as this material is covered in EBME 201 and 202.

²Students may take either BIOC 307 or CHEM 328 for their introductory biochemistry course. BIOC 307 is offered only in the fall semester; CHEM 328 is offered both semesters.

³Statistics can be fulfilled with ANTH 319, OPRE 207, PSCL 282, STAT 201, STAT 201R, STAT 312, or STAT 312R.

⁴Some engineering majors recommend that students enroll in PHYS 121 during the spring semester of their first year. Pre-Health engineering students should refer to recommended courses for their intended major as to when it is best to start their physics sequence.

To-Do List for First-Year Students Interested in Pre-Health

- Take courses recommended for first-year students pursuing professional health sciences.
- Explore and take courses that are genuinely interesting regardless of whether or not they fall into fields associated with the health science professions.
- Attend the pre-health information sessions during the new student orientation Wednesday, Aug. 23.
- If not already enrolled by the middle of October, get access to the CWRU pre-medical, pre-dental, and pre-health professions Blackboard page by sending a request to Mr. Wes Schaub (wws@case.edu) or Dr. Steven Scherger (steven.scherger@case.edu).
- Volunteer in a clinical environment such as the Cleveland Clinic, University Hospital Medical Centers, the Louis Stokes VA Medical Center, MetroHealth Medical Center, the CWRU Dental Clinic, Judson Manor, Hope Lodge, or the Ronald McDonald House.
- Shadow at least one professional in your health science field of interest in order to learn more about the rewards and demands of the career.
- Explore opportunities to engage in research by talking to your professors and advisors and through the SOURCE (Support of Undergraduate Research and Creative Endeavors) Office.
- Consider joining student organizations with a variety of focuses (not only health- or science-based) to explore academic interests, develop leadership skills, and to HAVE FUN!
- Attend information sessions held throughout the first year focused on career exploration, applicant preparation, and professional development in medicine, dentistry, and other health professional areas.
- During your first year, meet at least once with Mr. Wes Schaub (pre-medicine) or Dr. Steven Scherger (pre-health other than medicine) to discuss your interests and goals related to the health science professions. To schedule an appointment call 216.368.2928 or stop by the Office of Undergraduate Studies in Sears Building 357.

Recommendations for First-Year Students Interested in Law School

Curriculum and majors

Law schools do not "require" or "prefer" one major over another. They are looking to build a diverse class with students from varied backgrounds, interests, and experiences. Law schools do not expect applicants to follow a set curriculum. There are no specific classes that law school applicants need to complete prior to matriculation. Strong candidates are intelligent and motivated students with strong communication and analytical skills who have taken classes focusing on a variety of subjects. Many undergraduates pursue majors commonly associated with preparation for law school such as business, economics, English, history, philosophy, or political science, while others pursue majors in fields as diverse as art history, biology, engineering, psychology, sociology, computer science, and nursing. Some pre-law students choose to major in a discipline closely aligned with the type of law they are interested in pursuing. For example:

- humanities majors, such as English and history, for students interested in litigation
- biology, chemistry, environmental studies, geology, or environmental geology for students interested in environmental law
- engineering or science majors for students interested in intellectual property law
- accounting, management, statistics, mathematics, or economics for students interested in corporate law, tax law, and/or white collar crime
- psychology or sociology for students interested in family law, juvenile law, children's rights, and defense or prosecution of crimes

Bottom line: Pursue your passion, study hard, hone your communication, research, and analytical skills, and you will be a strong law school applicant.

How do I prepare for law school?

According to the Law School Admissions Council, "Law schools want students who can think critically and write well, and who have some understanding of the forces that have shaped the human experience. These attributes can be acquired in any number of college courses, whether in the arts and humanities, the social sciences, or the natural sciences. An undergraduate career that is narrowly based or vocationally oriented may not be the best preparation for law school. As long as you receive an education including critical analysis, logical reasoning, and written and oral expression, the range of acceptable college majors is very broad. What counts is the intensity and depth of your undergraduate program and your capacity to perform well at an academically rigorous level."

The American Bar Association recommends that law school applicants familiarize themselves with several areas of knowledge. Each of these areas is an important component of the general education requirements available to all students pursuing any undergraduate degree at Case Western Reserve University.

- A broad understanding of history, including the various factors (social, political, economic, and cultural) that have influenced the development of our society in the United States.
- A fundamental understanding of political thought and of the contemporary American political system.
- Some basic mathematical and financial skills, such as an understanding of basic pre-calculus mathematics and an ability to analyze financial data.
- A basic understanding of human behavior and social interaction.
- An understanding of diverse cultures within and beyond the United States, of international institutions and issues, of world events, and of the increasing interdependence of the nations and communities within our world.

Law schools look for prospective students with the following attributes and skills:

- Intelligence
- Demonstrated academic ability, motivation, and persistence
- Strong analytical skills, written communication skills, organizational skills, and oral communication skills
- Independent and original/creative thinking ability
- Research experience
- Sound judgment
- Strong problem-solving skills
- Significant personal initiative
- Demonstrated leadership abilities
- Self-confidence
- Demonstrated concern for others
- Energetic energy
- Emotional maturity

To-Do List for First-Year Students Interested in Law School

- Explore and take courses that are genuinely interesting regardless of whether or not they fall into fields associated with the legal profession. Consider trying courses that you know nothing about!
- Send an email to Pre-Law Advisor, Professor Terri Mester (terri.mester@case.edu), and request to be included on Blackboard and the pre-law database.
- Attend presentations given by admission directors, law professors, judges and prominent local attorneys on topics of interest to anyone considering a career in law. These talks are sponsored by Undergraduate Studies and will most likely be held on Fridays during the Community Hour (12:45 – 2 p.m.). Be sure to check your email and contact Terri Mester for more details at the beginning of the fall semester.
- Attend presentations, lectures, mock trials, and moot court sessions at the Case Western Reserve University School of Law.
- Review the pre-law page on the Office of Undergraduate Studies website to learn more about trends in law school acceptance rates, the current legal market, pre-law resources in print and on the web, and strategies to meet your educational and professional goals.
- Consider joining student organizations with a variety of focuses (not only legally focused) to explore academic interests, develop leadership skills, and to HAVE FUN! Also, consider joining Phi Alpha Delta, the undergraduate chapter of the international legal fraternity, and/or CWRU's mock trial team.
- Volunteer in a legal environment such as an attorney's office, the Cuyahoga County or City of Cleveland Prosecutor's Office, a legal department of a business such as Fifth Third Bank or the Cleveland Clinic, the Legal Aid Society of Cleveland, the American Civil Liberties Union, etc.
- Explore opportunities for study abroad. Watch for announcements about study abroad information sessions in the fall and spring semesters.
- Explore opportunities to engage in research by talking to your professors and advisors and through the SOURCE (Support of Undergraduate Research and Creative Endeavors) Office.
- During your first year, meet at least once with Pre-Law Advisor Terri Mester to discuss your interests and goals related to the legal profession. To schedule an appointment call 216.368.2928 or stop by the Office of Undergraduate Studies in Sears Building 357.

Recommendations for First-Year Students Interested in Study Abroad

The Office of Education Abroad in the Center for International Affairs at Case Western Reserve University provides a unique opportunity for students to personally experience another country and its culture, customs, people, language, and methods of problem-solving. There simply is no substitute! Students who study abroad develop important transnational competencies that can be of great interest to professional and graduate schools, as well as future employers. Study abroad allows you to learn about yourself and your home culture through exposure to new ways of thinking and living that encourage personal growth and independence.

Regardless of academic interests, study abroad is open to all students at Case Western Reserve. Each year many students spend anywhere from a week to a year studying in another country. Students can earn elective, breadth, minor, and even major credits on a study abroad program. We have more than 75 programs in more than 35 countries to fit your needs.

Options for study abroad

As a first-year student, you can jump right into a study abroad program. First-Year students are eligible to participate in faculty-led short-term and summer programs. Many departments across campus offer short-term programs during winter break, spring break, May, and summer. These opportunities consist of a CWRU class traveling abroad for one to three weeks exploring how the course topic is experienced in another country or culture. Moreover, first-year students can also participate in one of more than 50 opportunities to study abroad independently at an overseas institution over their first summer break.

In addition, your first year is an excellent time to start planning for a semester or year-long study abroad experience. CWRU offers a varied portfolio of semester- or year-long study abroad options. Students are eligible for long-term study abroad provided they have completed at least 24 credit-hours of coursework at CWRU, have declared a major, are in good academic and disciplinary standing (with no pending sanctions), and are otherwise eligible to register on campus at CWRU for the proposed semester(s). Some study abroad programs may have their own admissions guidelines that exceed CWRU expectations and students need to meet those for participation. Most programs are offered entirely in English with just a few requiring prior study of the local language. Regardless of whether foreign language study is required for a specific program, students planning to study in non-English-speaking countries are encouraged to develop competency in the language of the host country. Students with strong language skills often report a richer experience from being able to engage more fully in the local culture.

It is never too early to get the information you need to begin planning your study abroad. A study abroad advisor can help you find a program to match your academic needs. A study abroad advisor can help you find a program to match your academic needs. To schedule an appointment, email studyabroad@case.edu or stop by the Center for International Affairs in Tomlinson 143.

To-Do List for First-Year Students Interested in Study Abroad

- Explore the study abroad options available through Case Western Reserve University by visiting case.edu/international/office-of-education-abroad.html.
- . Email the Office of Education Abroad at any time to meet with a study abroad advisor and have your questions answered.
- Select one or two countries/regions where you would like to study that have programs that match your interests and fit well into your academic program.
- If you are considering study abroad in a non-English-speaking country, enroll in a language course relevant to that country. Even if language proficiency is not required for the study abroad program, you will have a richer experience by being able to communicate with local people in their native language.
- Once you decide upon your major(s) and minor(s), speak with the department representative or your faculty advisor to determine how best to fit study abroad into your academic program. Also consider mapping out a four-year plan to determine how study abroad options fit into your four- or five-year academic program.
- Be sure to meet with a study abroad advisor to discuss your program and the process of studying abroad. Your study abroad advisor will provide you with details on how to apply; financial aid and scholarships; the international school(s), program(s), and/or country(ies) you are interested in, and more. Schedule an appointment by emailing studyabroad@case.edu.
- Familiarize yourself with the study abroad application deadlines for your programs of interest. You can find the deadlines at <http://case.edu/international/office-of-education-abroad/programs/deadlines.html>. You should meet with a study abroad advisor sooner rather than later to plan your time abroad.

Recommendations for First-Year Students Interested in Research

Why consider research?

As a new student at Case Western Reserve University, you have joined a research-intensive community with a historic tradition of involving undergraduates in research and creative endeavors. Regardless of your major or academic interests, there are numerous opportunities to engage in research either on campus with CWRU faculty or elsewhere during the summer. Although a few students may have already participated in research through summer programs at a local university or in private industry, many of you may not have even considered engaging in such opportunities during your undergraduate career. Regardless of your past experience, there are a number of reasons why you should consider becoming involved in research endeavors during your undergraduate experience and it is never too early to begin exploring opportunities.

Participation in undergraduate research and creative endeavors offers you the opportunity to connect with the academic community at levels the classroom experience does not provide. Engaging in research will allow you to create mentoring relationships with individual faculty members and can be the gateway to developing a professional network that will open up opportunities for you whether you continue in graduate and professional studies or enter the workforce. Research projects also allow you to integrate academic theories learned in the classroom with practical experiences at a deeper and more meaningful level. In addition, these endeavors can enhance valuable workplace skills such as verbal and written communication, teamwork, and adaptability. Finally, participating in research at the undergraduate level is an excellent way to distinguish yourself when it comes time to apply for graduate and professional schools.

Beginning the search for opportunities

The SOURCE (Support of Undergraduate Research & Creative Endeavors) Office is the place to start your exploration of the numerous on and off-campus opportunities for undergraduate research that are available. Be sure to visit case.edu/source in order to learn more about the variety of opportunities that might be available in your academic area of interest. Consider registering for the four-part Responsible Conduct of Research (RCR) Seminar Series that is offered in the fall and spring semesters. Students who attend all four sessions receive a Certificate of Completion. During the fall semester, plan to attend one of the many information sessions that will be conducted by SOURCE to provide you with additional information on the process of becoming involved. Be sure to check the First-Year Information Newsletter that you will receive on a weekly basis for times and locations of information sessions throughout the fall semester. Once you have reviewed the information from the website and attended an information session, you will want to make an appointment with Dr. Sheila Pedigo, Director of SOURCE, to discuss what opportunities will best fit your goals and schedule. You can reach the SOURCE office at 216.368.2180 or source@case.edu.

To-Do List for First-Year Students Interested in Research

- Review SOURCE's website to learn about various on- and off-campus research opportunities available for undergraduate students.
- Analyze your schedule and think about the commitments you want to make both academically and socially at CWRU to determine how research might fit within your other responsibilities. Work on defining a schedule that will help you achieve success, and then determine which type of research opportunities will fit.
- Register and attend the four-part Responsible Conduct of Research Seminar Sessions offered during the fall and spring semesters. Students who complete the four-part series receive a Certificate of Completion. The seminars are a great way to prepare for the research process.
- Attend a SOURCE information session during the fall semester to learn more about undergraduate research opportunities. Be sure to check the First-Year Information Newsletter and The Daily for times and locations.
- Attend lectures and presentations sponsored by departments and schools at CWRU. These series will provide a picture of what research is currently being conducted at CWRU and at the national level by faculty and students. The SOURCE office can help you learn about these opportunities.
- In November, begin to review the SOURCE website for summer research opportunities at CWRU and elsewhere. Application deadlines for summer positions begin in December and go through March.
- Use the winter break period to seek positions that you might want to pursue for the summer.
- During your first year, make an appointment with Dr. Sheila Pedigo, Director of SOURCE, to discuss your research interests. To schedule an appointment call 216.368.2180 or stop by the SOURCE office in Sears Building 451.

Survey of Fall 2017 Course Offerings

This is not an exhaustive list or endorsement of any particular course. Check the Schedule of Classes in SIS and search by subject code for a full list of available courses in each department. Review course descriptions for more detailed information and prerequisites. Those marked with an asterisk (*) denote courses that have prerequisites and/or co-requisites.

Accounting (ACCT)

ACCT 101	Introduction to Financial Accounting
ACCT 102*	Management Accounting
ACCT 203	Survey of Accounting
ACCT 207*	Excel Applications and Modeling

Anthropology (ANTH)

(General Education Requirement Category = Social Sciences)

ANTH 102	Being Human: An Introduction to Social and Cultural Anthropology
ANTH 103	Introduction to Human Evolution
ANTH 107	Archaeology: An Introduction
ANTH 215	Health, Culture, and Disease: An Introduction to Medical Anthropology

Arabic (ARAB)

(General Education Requirement Category = Arts/Humanities)

ARAB 101	Beginning Arabic I
ARAB 201*	Intermediate Arabic I
ARAB 301*	Advanced Arabic I

ARAB 102 and 202 are offered in the spring.

Art History (ARTH)

(General Education Requirement Category = Arts/Humanities)

ARTH 101	Art History I: Pyramids to Pagodas <i>Offered fall only.</i>
ARTH 203	The Arts of Asia
ARTH 284	History of Photography

Art Studio and Art Education (ARTS)

(General Education Requirement Category = Arts/Humanities)

ARTS 101	Design and Color I
ARTS 106	Creative Drawing I
ARTS 201*	Design and Color II
ARTS 206*	Creative Drawing II
ARTS 210	Enameling and Jewelry I
ARTS 212	Weaving, Fibers, and Textiles I
ARTS 214	Ceramics I
ARTS 216	Painting I
ARTS 220	Photography Studio I
ARTS 295*	Introduction to Art Education <i>Offered fall only.</i>

Astronomy (ASTR)

(General Education Requirement Category = Natural & Mathematical Sciences)

ASTR 201	The Sun and its Planets <i>Not available for credit to astronomy majors.</i>
ASTR 206	Life in the Universe
ASTR 221*	Stars and Planets

Bioethics (BETH)

BETH 210	Perspectives on Health: Introduction to Medical Humanities and Social Medicine
BETH 271	Bioethics: Dilemmas <i>Cross-listed as PHIL 271.</i>

Biology (BIOL)

(General Education Requirement Category = Natural & Mathematical Sciences)

BIOL 114	Principles of Biology <i>Offered fall only. Does not count toward biology major.</i>
BIOL 116*	Introduction to Human Anatomy and Physiology I <i>Not recommended for first-year students other than those pursuing a nursing major.</i>
BIOL 214*	Genes, Evolution, and Ecology
BIOL 214L*	Genes, Evolution, and Ecology Lab
BIOL 215*	Cells and Proteins
BIOL 215L*	Cells and Proteins Lab
BIOL 216*	Development and Physiology
BIOL 216L*	Development and Physiology Lab

Biomedical Engineering (EBME)

EBME 105	Introduction to Biomedical Engineering <i>Offered fall only.</i>
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Chemical Engineering (ECHE)

ECHE 151	Introduction to Chemical Engineering at Case
ECHE 260*	Introduction to Chemical Systems

Chemistry (CHEM)

(General Education Requirement Category = Natural & Mathematical Sciences)

CHEM 105	Principles of Chemistry I <i>Offered fall only.</i>
CHEM 106*	Principles of Chemistry II
CHEM 111	Principles of Chemistry for Engineers
CHEM 113*	Principles of Chemistry Lab
CHEM 121	Concepts for a Molecular View of Biology II
CHEM 223*	Introductory Organic Chemistry I
CHEM 224*	Introductory Organic Chemistry II
CHEM 233*	Introductory Organic Chemistry Lab I
CHEM 234*	Introductory Organic Chemistry Lab II
CHEM 290*	Chemical Laboratory Methods for Engineers

Chinese (CHIN)

(General Education Requirement Category = Arts/Humanities)

CHIN 101	Elementary Chinese I <i>Offered fall only.</i>
CHIN 201*	Intermediate Chinese I <i>Offered fall only.</i>
CHIN 253	Introducing Chinese Religions <i>Cross-listed as ETHS 153.</i>
CHIN 301*	Advanced Chinese I <i>Offered fall only.</i>

CHIN 102, 202, and 302 are offered in the spring.

Civil Engineering (ECIV)

ECIV 160	Surveying and Computer Graphics <i>Offered fall only.</i>
ECIV 211	Civil Engineering Materials

Classics (CLSC)
(General Education Requirement Category = Arts/Humanities)

- CLSC 220* Art and Literature in the Classical Tradition, Part I: Renaissance and Baroque (14th to 17th centuries)
Cross-listed as WLIT 220.
- CLSC 231 Athens to Alexandria: The World of Ancient Greece
Cross-listed as HSTY 231.

Cognitive Science (COGS)
(General Education Requirement Category = Social Sciences)

- COGS 101 Introduction to Cognitive Science I
- COGS 205 Cognition and Design
Instructor consent required.
- COGS 206* Theory of Cognitive Linguistics I

Communication Sciences (COSI)
(General Education Requirement Category = Social Sciences)

- COSI 101 Introduction to Health Communication
- COSI 109 Introduction to Communication Disorders
- COGS 201 Human Cognition in Evolution and Development
- COSI 211 Phonetics and Phonology

Dance (DANC)
(General Education Requirement Category = Arts/Humanities)

NOTE: Some students may be encouraged to take 200-level modern upon advisement of the chair, and in some instances the 300-level ballet, again upon advisement.

- DANC 103 First-Year Modern Dance Techniques I
- DANC 104 First-Year Modern Dance Technique II
- DANC 121 Dance in Culture: Ethnic Forms
- DANC 160 Introduction to Ballet Technique I
- DANC 203* Second-year Modern Dance Techniques I
- DANC 260 Second-year Ballet Technique I

Data Science and Analytics (DSCI)

- DSCI 351 Exploratory Data Science
Instructor consent required.
- DSCI 352 Applied Data Science Research
Instructor consent required.

Earth, Environmental, and Planetary Sciences (EEPS)
(General Education Requirement Category = Natural & Mathematical Sciences)

- EEPS 110 Physical Geology
Offered fall only.
- EEPS 117 Weather and Climate
Offered fall only.
- EEPS 119* Geology Laboratory
Offered fall only.
- EEPS 303 Environmental Law
Cross-listed as ESTD 303.

Economics (ECON)
(General Education Requirement Category = Social Sciences)

- ECON 102 Principles of Microeconomics
- ECON 103 Principles of Macroeconomics
- ECON 307* Intermediate Macro Theory
- ECON 308* Intermediate Micro Theory
- ECON 346 Economic Perspectives

Electrical Engineering and Computer Science (EECS)

- EECS 132 Introduction to Programming in Java
- EECS 233* Introductory Data Structures

- EECS 246* Signals and Systems
- EECS 275* Fundamentals of Robotics
- EECS 281* Logic Design and Computer Organization
- EECS 302* Discrete Mathematics
Cross-listed as MATH 304.

Engineering (ENGR)

- ENGR 131 Elementary Computer Programming
- ENGR 145* Chemistry of Materials
- ENGR 200* Statics and Strength of Materials
- ENGR 210* Introduction to Circuits and Instrumentation
- ENGR 225* Thermodynamics, Fluid Dynamics, Heat and Mass Transfer

English (ENGL)
(General Education Requirement Category = Arts/Humanities)

NOTE: Students interested in additional individual writing support should consider ENGL 180.

- ENGL 200 Literature in English
- ENGL 203 Introduction to Creative Writing
- ENGL 204 Introduction to Journalism
- ENGL 213 Introduction to Fiction Writing
- ENGL 214 Introduction to Poetry
- ENGL 217A Business and Professional Writing*

Environmental Studies (ESTD)

- ESTD 303 Environmental Law
Cross-listed as EEPS 303.

Ethnic Studies (ETHS)

- ETHS 153 Introducing Chinese Religions
Cross-listed as CHIN 253.
- ETHS 251A Oral Performances and Ethnic Identities
- ETHS 280 History of Modern Mexico
Cross-listed as HSTY 280.

French (FRCH)
(General Education Requirement Category = Arts/Humanities)

- FRCH 101 Elementary French I
- FRCH 102* Elementary French II
- FRCH 201* Intermediate French I
- FRCH 202* Intermediate French II
- FRCH 310* Advanced Composition and Reading
Offered fall only.
- FRCH 314* Translation Techniques
- FRCH 319* Modern France

German (GRMN)
(General Education Requirement Category = Arts/Humanities)

- GRMN 101 Elementary German I
- GRMN 102* Elementary German II
- GRMN 201* Intermediate German I
- GRMN 313* Introduction to German Literature

Greek (GREK)
(General Education Requirement Category = Arts/Humanities)

- GREK 102* Elementary Greek II
- GREK 370* Greek Prose Composition

Hebrew (HBRW)
(General Education Requirement Category = Arts/Humanities)

- HBRW 101 Elementary Modern Hebrew I
Offered fall only.
- HBRW 102* Elementary Modern Hebrew II

required. For more information, contact Professor John Lewandowski at jjl3@case.edu.

History (HSTY)

(General Education Requirement Category = Arts/Humanities)

HSTY 103	Introduction to Medieval History, 500-1500
HSTY 104	Early Modern Europe
HSTY 107	Introduction to the History of the Ancient Near East
HSTY 108	Introduction to Early American History
HSTY 110	Introduction to U.S. History for International Students
HSTY 113	Introduction to Modern World History
HSTY 126	Fashion and Power: The Politics of Dress in American History
HSTY 157	Women's Histories in South Asia
HSTY 204	History of the Nonprofit Sector
HSTY 243	The Age of Prozac: Social and Cultural Aspects of Depression
HSTY 257	Immigrants in America
HSTY 258	History of Southern Africa
HSTY 280	History of Modern Mexico
HSTY 289	Reform, Revolution, Republics: China 1895 to Present

Italian (ITAL)

(General Education Requirement Category = Arts/Humanities)

ITAL 101	Elementary Italian I <i>Offered fall only.</i>
ITAL 201*	Review and Progress in Italian <i>Offered fall only.</i>

ITAL 102 and 202 are offered in the spring.

Japanese (JAPN)

(General Education Requirement Category = Arts/Humanities)

JAPN 101	Elementary Japanese I
JAPN 102	Elementary Japanese II
JAPN 201*	Intermediate Japanese I
JAPN 202	Intermediate Japanese II
JAPN 225	Japanese Popular Culture
JAPN 301*	Advanced Japanese I <i>Offered fall only.</i>

Judaic Studies (JDST)

JDST 228	The Jewish Image in Popular Film
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Latin (LATN)

(General Education Requirement Category = Arts/Humanities)

LATN 101	Elementary Latin I <i>Offered fall only.</i>
LATN 201*	Latin Prose Authors <i>Offered fall only.</i>

Macromolecular and Polymer Science (EMAC)

EMAC 125*	Freshman Research in Polymers <i>Instructor permission required. Graded P/NP. For more information contact Professor Schiraldi at das44@case.edu.</i>
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Management (MGMT)

MGMT 201	Contemporary Business and Communication
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Materials Science and Engineering (EMSE)

EMSE 110	Transitioning Ideas into Reality I: Materials in Service of Industry and Society
EMSE 125*	Freshman Research in Material Science and Engineering <i>Limited to first-year students. Instructor permission</i>

Mathematics (MATH)

(General Education Requirement Category = Natural & Mathematical Sciences/Quantitative Reasoning)

NOTE:

1. Registration for mathematics courses is based upon credit earned through AP, IB, or transfer credit and the score on the CWRU math diagnostic. The math diagnostic assesses preparation and skill levels in pre-calculus material.
2. Students who took calculus in high school may take the mathematics proficiency examination during new student orientation unless they receive credit as a result of transfer credit or an appropriate score on one of the AP or IB exams in calculus. Students who pass the proficiency examination for MATH 121, 122, or both may enroll in a more advanced course during the first week of classes.

MATH 120	Elementary Functions and Analytic Geometry
MATH 121*	Calculus for Science and Engineering I
MATH 122*	Calculus for Science and Engineering II
MATH 124*	Calculus II (enhanced) <i>Offered fall only. Enrollment by invitation only.</i>
MATH 125*	Mathematics and Calculus Applications for Life, Managerial & Social Sciences I
MATH 126*	Mathematics and Calculus Applications for Life, Managerial & Social Sciences II
MATH 201*	Introduction to Linear Algebra
MATH 223*	Calculus for Science and Engineering III
MATH 224*	Elementary Differential Equations
MATH 227*	Calculus III (enhanced) <i>Enrollment by invitation only.</i>
MATH 301	Undergraduate Reading Course <i>Instructor consent required.</i>
MATH 305*	Introduction to Advanced Mathematics
MATH 308*	Introduction to Abstract Algebra

Music – Applied Music (MUAP)

MUAP 121*	Principal Performance Area I <i>Department consent required. Limited to music and music education majors.</i>
MUAP 131*	Secondary Performance Area I <i>Department consent required. Contact music@case.edu for information about fees and registration.</i>

Music – Dalcroze/Eurhythmics (MUDE)

MUDE 101*	Eurhythmics I <i>Department consent required.</i>
MUDE 102*	Eurhythmics II <i>Department consent required.</i>

Music – Ensembles (MUEN)

The following ensembles are open to all university students. Students desiring to participate must obtain consent of director after audition and may add the course during the first week of classes. There is no fee for participation in any organization except in the case of a part-time student enrolled for credit. Learn more at music.case.edu/ensembles.

MUEN 324*	Case Percussion Ensemble <i>Audition required.</i>
MUEN 365*	Case Chamber Music <i>Audition required.</i>
MUEN 370*	Popular Music Ensemble

- Audition required.*
 MUEN 373* Jazz Ensemble I
Audition required.
 MUEN 374* Jazz Ensemble II
Audition required.
 MUEN 382* Case Concert Choir
Audition required.
 MUEN 383* Symphonic Winds
Audition required.
 MUEN 384 Spartan Marching Band
 MUEN 385* Case/University Circle Orchestra
Audition required.
 MUEN 386* Case Camerata Chamber Orchestra
Audition required.
 MUEN 388 University Chorale
No audition required.
 MUEN 389* Keyboard Ensembles
Music-piano majors only.
 MUEN 393* Baroque Chamber Ensembles
Audition required.
 MUEN 396* Early Music Singers
Audition required.
 MUEN 397* Baroque Orchestra
Audition required.

Music – General (MUGN)
(General Education Requirement Category = Arts/Humanities)

- MUGN 201 Introduction to Music: The Listening Experience I
 MUGN 212 History of Rock and Roll
 MUGN 308 Digital Music: Composition and Production

Music – Theory (MUTH)
(General Education Requirement Category = Arts/Humanities)

- MUTH 003 Pre-conservatory Theory
Credit not applicable toward fulfillment of degree requirements in music major. Permit required.
 MUTH 101* Harmony - Keyboard I
Open only to music majors. Taken concurrently with MUTH 105.
 MUTH 102* Harmony - Keyboard II
Open only to music majors. Taken concurrently with MUTH 106.
 MUTH 103 Theory I
Not open to music majors.
 MUTH 104* Theory II
Not open to music majors.
 MUTH 105* Sightsinging – Eartraining I
Open only to music majors.
 MUTH 106* Sightsinging – Eartraining II
Open only to music majors.
 MUTH 107* Theory for Music Majors I
Offered fall only.

Nursing (NURS)

- NURS 110* Foundations of the Discipline
 NURS 111* Foundations of the Practice

Nutrition (NTRN)
(General Education Requirement Category = Natural & Mathematical Sciences)

- NTRN 201 Nutrition

Operations Research (OPRE)

- OPRE 207* Statistics for Business and Management Science I

Origins Science (ORIG)

- ORIG 101 Origins Prologue: Life, the Universe, and Everything
 ORIG 202* Origins II: Life in all its diversity

Philosophy (PHIL)
(General Education Requirement Category = Arts/Humanities)

- PHIL 101 Introduction to Philosophy
 PHIL 201 Introduction to Logic
Offered fall only.
 PHIL 203 Revolutions in Science
 PHIL 301 Ancient Philosophy
Cross-listed as CLSC 301.
 PHIL 313 Philosophy of Mathematics
 PHIL 322 The Science of Happiness
 PHIL 325* Philosophy of Feminism
Cross-listed as WGST 325.

Physics (PHYS)
(General Education Requirement Category = Natural & Mathematical Sciences)

- PHYS 113A Principles of Physics Laboratory – Mechanics
Instructor consent required.
 PHYS 113B Principles of Physics Laboratory – Electricity and Magnetism
Instructor consent required.
 PHYS 115 Introductory Physics I
Offered fall only.
 PHYS 121* General Physics I – Mechanics
 PHYS 122* General Physics II – Electricity and Magnetism
 PHYS 123* Physics and Frontiers I – Mechanics
Enrollment by invitation only. Offered fall only.
 PHYS 166 Physics Today and Tomorrow
Instructor consent required.

Political Science (POSC)
(General Education Requirement Category = Social Sciences)

- POSC 109 The U.S. Political System
 POSC 160 Introduction to Comparative Politics
 POSC 172 Introduction to International Relations
 POSC 300-level First-Year students may enroll in any 300-level POSC course not listed as a Departmental Seminar.

Psychology (PSCL)
(General Education Requirement Category = Social Sciences)

- PSCL 101 General Psychology I
 PSCL 230 Child Psychology
 PSCL 282 Quantitative Methods in Psychology
Not available for credit to students who have completed STAT 201 or ANTH 319.
 PSCL 300-level Students with credit for PSCL 101 may Explore 300-level PSCL courses.

Religious Studies (RLGN)
(General Education Requirement Category = Arts/Humanities)

- RLGN 153 Introducing Chinese Religions
Cross-listed as ETHS 153 and CHIN 253.
 RLGN 155 Introducing Jainism
 RLGN 201 Interpreting Religion: Approaches and Current Issues
 RLGN 229 Asian Christianity: Historical Perspective
 RLGN 234 The Ramayana: The Great Indian Epic

Russian (RUSN)
(General Education Requirement Category = Arts/Humanities)

- RUSN 101 Elementary Russian I
Offered fall only.
RUSN 201* Intermediate Russian I
Offered fall only.

WLIT 225

WLIT 241
WLIT 324

Cross-listed as CLSC 220 .
Japanese Popular Culture
Cross-listed as JAPN 225.
Latin Prose Authors
The Sublime and Grotesque in Art and Literature
Cross-listed as CLSC 324.

RUSN 102 and 202 are offered in the spring.

Sociology (SOCI)
(General Education Requirement Category = Social Sciences)

- SOCI 101 Introduction to Sociology
SOCI 113 Critical Problems in Modern Society
SOCI 202 Race & Ethnic Minorities in the U.S.
SOCI 204 Criminology
Offered fall only.
SOCI 208 Dating, Marriage, and Family

Spanish (SPAN)
(General Education Requirement Category = Arts/Humanities)

- SPAN 101 Elementary Spanish I
SPAN 102* Elementary Spanish II
SPAN 201* Intermediate Spanish I
SPAN 202* Intermediate Spanish II
SPAN 310* Advanced Composition and Reading
SPAN 311* Advanced Spanish Conversation
SPAN 315* Latin American Cultural Conflicts
SPAN 320* Introduction to Readings in Spanish Literature
Offered fall only.

Statistics (STAT)
General Education Requirement Category = Natural &
Mathematical Sciences/Quantitative Reasoning

- STAT 201/201R Basic Statistics for the Social and Life Sciences
I [Using R Programming (201R)]
*Not available for credit to those who have
completed ANTH 319 or PSCL 282.*
STAT 243* Statistical Theory with Application I
Offered fall only.

Theater (THTR)
(General Education Requirement Category = Arts/Humanities)

*Auditions for theater productions will be held at the beginning of
the fall semester. Questions regarding preparation for auditions
should be directed to the theater department at 216.368.4868.
Learn more at theater.case.edu.*

- THTR 100 Introduction to Acting
THTR 102 Acting I for Majors
THTR 105 Introduction to Stagecraft
THTR 110 Introduction to Theater
THTR 185 Theater Practicum

Women's and Gender Studies (WGST)
(General Education Requirement Category = Arts/Humanities)

- WGST 257 Women's Histories in Southeast Asia
Cross-listed as HSTY 157.
WGST 318 History of Black Women in the U.S.
Cross-listed as ETHS 318 and HSTY 318.
WGST 325* Philosophy of Feminism
Cross-listed as PHIL 325.

World Literature (WLIT)
(General Education Requirement Category = Arts/Humanities)

- WLIT 211 World Literature I
WLIT 220 Art and Literature in the Classical Tradition, Pt 1:
Renaissance and Baroque

University Physical Education Requirement and Varsity Athletics

Two semesters of physical education are required for graduation. This is a noncredit university requirement. Each student may select the particular activities s/he wishes from the selections listed below. Full semester courses have 100-level numbers (e.g. PHED 130 – Wellness). Activities with numbers below 100 are half semester activities (e.g. PHED 10A - Cardio Games). Activities offered during the first half of the semester have an (A) after the number. Activities offered during the second half of the semester have a (B) after the number. Varsity athletes should register for the varsity sport course that corresponds to their sport. (Spartan Marching Band, if taken for zero credit-hours, may be used to fulfill the physical education requirement.)

First-Year students should try to include PHED courses in their fall schedules, if available. Keep in mind it is recommended—not required—for your first semester. Selection of your academic courses should be completed first. Most activities are offered at a variety of times and days.

Varsity athletics

Students interested in participating in varsity athletics should communicate with a member of the coaching staff prior to registration. Contact information for coaches can be found on the specific team page at athletics.case.edu.

Students participating in varsity athletics may use one year of varsity activity to fulfill one semester of the physical education requirement per year. All varsity sports teams meet Monday through Friday, 4:30 - 6:30 p.m. and/or as arranged.

PHED 170 – Varsity Baseball (spring)
PHED 171 – Varsity Basketball (men)
PHED 172 – Varsity Basketball (women)
PHED 174 – Varsity Cross Country (men)
PHED 175 – Varsity Cross Country (women)
PHED 178 – Varsity Football
PHED 180 – Varsity Soccer (men)
PHED 181 – Varsity Soccer (women)
PHED 182 – Varsity Swimming (men)
PHED 183 – Varsity Swimming (women)
PHED 184 – Varsity Tennis (men, spring)
PHED 185 – Varsity Tennis (women, spring)
PHED 186 – Varsity Track & Field (men, spring)
PHED 187 – Varsity Track & Field (women, spring)
PHED 188 – Varsity Volleyball
PHED 189 – Varsity Wrestling
PHED 190 – Varsity Softball (women, spring)

Music and music education majors

MUDE 101 – Eurhythmics
Music majors only; two semesters required for music and music education majors.

Nursing majors

NURS 277 – BCLS and First Aid for Health Care Providers
Counts as one half-semester of credit.

Full-semester activities

DANC 386 – Rehearsal and Performance (instructor consent required)
MUEN 384 – Spartan Marching Band (can be taken as zero or one credit-hour)
If taken as part of the physical education requirement, must be taken for zero credit-hours. Students do not have to be music or music education majors.
PHED 108 – Fencing (all levels)
PHED 130 – Wellness
PHED 131 – Personal Fitness
PHED 141 – Dance

First-half semester (A) activities

(Aug. 28 – Oct. 20, 2017)
PHED 10A – Cardio Games
PHED 21A – Hatha Yoga
PHED 22A – Intermediate Hatha Yoga
PHED 25A – Power Volleyball
PHED 26A – Racquetball
PHED 27A – Indoor Group Cycling
PHED 29A – Swimming - Beginning and Intermediate
PHED 30A – Swimming – Endurance
PHED 31A – Tennis
PHED 34A – Weight Training
PHED 39A – Bowling
PHED 41A – Softball
PHED 44A – Core Yoga
PHED 50A – Personal Safety Awareness
PHED 55A – Cardio-Fitness
PHED 60A – CPR/First Aid
PHED 66A – Advanced Rowing

Second-half-semester (B) activities

(Oct. 25 – Dec. 8, 2017)
PHED 10B – Cardio Games
PHED 12B – Badminton
PHED 13B – Rock Wall Climbing
PHED 14B – Indoor Rowing
PHED 21B – Hatha Yoga
PHED 22B – Intermediate Hatha Yoga
PHED 24B – Jogging
PHED 25B – Power Volleyball
PHED 26B – Racquetball
PHED 27B – Indoor Group Cycling
PHED 29B – Beginning and Intermediate Swimming
PHED 34B – Weight Training
PHED 40B – Basketball
PHED 42B – Indoor Soccer
PHED 44B – Core Yoga
PHED 50B – Personal Safety Awareness
PHED 55B – Cardio-Fitness
PHED 60B – CPR/First Aid

Course Registration: July 11-14, 2017

By the time registration opens July 11, you should have already reviewed the preparatory information and filled your Shopping Cart. Registration for first-year students will be open July 11 (9 a.m. EDT) through July 14 (11:59 p.m. EDT). During this time, you are expected to register for all courses you plan to take during fall semester with the exception of First Seminar (a separate process explained on Page 20). After the registration period closes, your schedule will be reviewed by a staff member in Undergraduate Studies and you will be contacted by July 28 if there are any questions or concerns about your schedule.

Should you change your mind about your schedule after July 14 you will have the opportunity to make changes during new student orientation and throughout the first two weeks of the semester during the drop/add period. You will also meet individually with your first-year advisor during new student orientation to review your schedule again.

Please keep in mind the following when preparing to register for fall semester.

Create a balanced schedule

Before you make decisions about specific courses on your schedule, again consider these recommendations:

- Balance the types of courses that comprise your schedule: Try to avoid putting together five heavy reading classes, three math courses or three lab courses all in the same semester. Look for courses that offer you variety in terms of topics, teaching methodology and types of requirements.
- The greater interest you have in the courses that you are taking, the more likely you are to be successful.
- Balance the times of courses that comprise your schedule: Most courses meet on Mondays, Wednesdays and Fridays for 50 minutes or Tuesdays and Thursdays 75 minutes. It is not recommended to take all of your classes on only Tuesday and Thursday or only on Monday, Wednesday and Friday. The more that you spread out your courses, the more breaks and flexibility you will have with your schedule. Also, you will avoid long days that leave you feeling exhausted and unable to study.
- Keep in mind the recommended schedule consists of 14-17 credit-hours, though some majors require slightly more. Do not feel obligated to take more hours than are recommended in the first-year schedule development recommendations for your major(s).

Carefully select your courses

You will be selecting at most three to four academic credit-bearing courses normally totaling 10-13 semester hours. (Once First Seminar is added, your schedule will total 14-17 credit-hours, though some majors may require slightly more.) You should also be identifying some alternate course options in case of time conflicts or course availability issues. We are incredibly successful at getting students into the courses that they need. As previously stated, it is important that you remain flexible in this process and have alternate courses identified in advance of registration so that changes to your projected schedule can be made if necessary. You will have the option to request enrollment in a closed course via the New Student Checklist if necessary, though these requests are not guaranteed to be approved. Requests made for courses required for a student's intended major will be given priority.

The course registration process continues throughout the first two weeks of the semester (drop/add period) and schedule adjustments can be made throughout that time as needed. The curriculum is also flexible enough to allow for a variety of scheduling options for students across all academic areas of interest. If your schedule has courses that are offered at only one day and/or time, you should lock those into your schedule first and then move to other courses that are offered at more than one day and/or time.

If available, students should enroll in a physical education (PHED) course. However, it is not required that a student take a PHED course in his or her first semester. Physical education courses count as zero credit-hours. Varsity athletes participating in a fall sport should register for that course.

Once you have finalized your course schedule and have made a list of alternate courses, you will log on to SIS and complete the course registration process. The following pages will guide you through the process. Keep in mind the Undergraduate Studies staff (summerreghelp@case.edu or 216.368.2928) are available to answer your questions along the way.

How to Register for Courses

(NOTE: This is a continuation of the instructions for filling the shopping cart, found on Page 17).

Log in to the SIS Student Center.

If you have already filled your shopping cart:

Click on the “plan” link, and then click on the “shopping cart” sub tab. Review your class selections and make any necessary changes. If you need to edit your shopping cart, you can make changes to your class selections by completing the following steps:

- A. To delete a class from your shopping cart:
 - i. Click the checkbox next to the class in the **select** column.
 - ii. Click the **delete** button.
 - iii. Your shopping cart refreshes; the class has been removed.

- B. To add a class to your shopping cart:
 - i. Click the **search** button.
 - ii. The search screen appears.

After making any necessary changes, proceed to step 17.

IF YOU HAVEN'T FILLED YOUR SHOPPING CART, REFER TO STEP ONE ON PAGE 13.

Sample Student go to ... ▾ >>

Search	Plan	Enroll	My Academics	My Advisors
my planner	shopping cart	course history		

Shopping Cart

Add Classes to Shopping Cart

Use the Shopping Cart to temporarily save classes until it is time to enroll for this term. Select Validate to have the system check for possible conflicts prior to enrolling.

Fall 2017 | Undergraduate | Case Western Reserve Univ

change term

● Open
 ■ Closed
 ▲ Wait List

Fall 2017 Shopping Cart							
Select	Class	Description	Days/Times	Room	Instructor	Units	Status
<input type="checkbox"/>	ENGL 213-100 (3084)	Intro to Fiction Writing (Lecture)	Mo 4:25PM - 6:55PM	To Be Scheduled	T. Umrigar	3.00	●
<input type="checkbox"/>	HSTY 108-100 (3459)	Intro to Early Amer History (Lecture)	TuTh 11:30AM - 12:45PM	To Be Scheduled	R. Sentilles	3.00	●
<input type="checkbox"/>	MATH 120-102 (1744)	Elem Functions Analytic Geom (Lecture)	MoWeFr 9:30AM - 10:20AM	To Be Scheduled	Staff	3.00	●
<input type="checkbox"/>	PHED 13B-101 (6217)	Rock Wall Climbing (2nd Half) (Phys Ed)	TuTh 10:00AM - 11:00AM	Veale Center	J. Reimer		●
<input type="checkbox"/>	PHYS 121-11 (1224)	General Physics I-Mechanics (Laboratory)	Th 1:00PM - 4:00PM	Rockefeller 404	D. Driscoll	4.00	●
<input type="checkbox"/>	PHYS 121-100 (1282)	General Physics I-Mechanics (Lecture)	MoWeFr 11:40AM - 12:30PM	To Be Scheduled	C. Covault		●

for selected:
 delete
 validate
 enroll

STEP 17: Your **shopping cart** appears. It should include the classes for which you intend to register.

STEP 18: Select all the classes in your **shopping cart** by clicking the checkboxes in the **select** column.

STEP 19: Click the **validate** button. (If you see a blue square under the **status** column, you will not be able to enroll in the section, as it is closed. The validate button will not catch these.)

VALIDATION RESULTS

Sample Student

go to ...

Shopping Cart

Add Classes to Shopping Cart

View the following status report for enrollment confirmations and errors:

<input checked="" type="checkbox"/> OK to Add <input checked="" type="checkbox"/> Potential Problem		
Description	Message	Status
PHYS 121	OK to Add.	<input checked="" type="checkbox"/>
MATH 120	OK to Add.	<input checked="" type="checkbox"/>
ENGL 213	OK to Add.	<input checked="" type="checkbox"/>
HSTY 108	OK to Add.	<input checked="" type="checkbox"/>
PHED 13B	OK to Add.	<input checked="" type="checkbox"/>

STEP 20: The results of the validation process appear.

STEP 21: If a red X appears, that means a problem has been found with the suggested schedule in your shopping cart. Consult the SIS error messages table on Page 54. Any classes with a green checkmark are okay to add to your schedule.

STEP 22: Click the **shopping cart** button. You will then be able to make adjustments to your shopping cart or proceed with enrollment if no adjustments are necessary.

ENROLL

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Open
 Closed
 Wait List

Add to Cart:

Enter Class Nbr

Find Classes

Class Search
 My Planner

Select	Class	Description	Days/Times	Room	Instructor	Units	Status
<input checked="" type="checkbox"/>	ENGL 213-100 (3084)	Intro to Fiction Writing (Lecture)	Mo 4:25PM - 6:55PM	To Be Scheduled	T. Umrigar	3.00	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	HSTY 108-100 (3459)	Intro to Early Amer History (Lecture)	TuTh 11:30AM - 12:45PM	To Be Scheduled	R. Sentilles	3.00	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	MATH 120-102 (1744)	Elem Functions Analytic Geom (Lecture)	MoWeFr 9:30AM - 10:20AM	To Be Scheduled	Staff	3.00	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	PHED 13B-101 (6217)	Rock Wall Climbing (2nd Half) (Phys Ed)	TuTh 10:00AM - 11:00AM	Veale Center	J. Reimer		<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	PHYS 121-111 (1284)	General Physics I-Mechanics (Laboratory)	Th 1:00PM - 4:00PM	Rockefeller 404	D. Driscoll	4.00	<input checked="" type="checkbox"/>
<input type="checkbox"/>	PHYS 121-100 (1282)	General Physics I-Mechanics (Lecture)	MoWeFr 11:40AM - 12:30PM	To Be Scheduled	C. Covault		<input checked="" type="checkbox"/>

for selected:

STEP 23: You can delete a class by clicking the **select** check box and clicking **delete**. You can select additional classes by using the **search** button.

STEP 24: From the shopping cart, click the **enroll** button once you have made your final selections and have made sure everything was 'OK to Add' after you validated the classes in your shopping cart.

CLASS CONFIRMATION

Shopping Cart



2. Confirm classes

Select Finish Enrolling to process your request for the classes listed. To exit without adding these classes, select Cancel.

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Class	Description	Days/Times	Room	Instructor	Units	Status
ENGL 213-100 (3084)	Intro to Fiction Writing (Lecture)	Mo 4:25PM - 6:55PM	To Be Scheduled	T. Umrigar	3.00	●
HSTY 108-100 (3459)	Intro to Early Amer History (Lecture)	TuTh 11:30AM - 12:45PM	To Be Scheduled	R. Sentilles	3.00	●
MATH 120-102 (1744)	Elem Functions Analytic Geom (Lecture)	MoWeFr 9:30AM - 10:20AM	To Be Scheduled	Staff	3.00	●
PHED 13B-101 (6217)	Rock Wall Climbing (2nd Half) (Phys Ed)	TuTh 10:00AM - 11:00AM	Veale Center	J. Reimer		●
PHYS 121-111 (1284)	General Physics I-Mechanics (Laboratory)	Th 1:00PM - 4:00PM	Rockefeller 404	D. Driscoll	4.00	●
PHYS 121-100 (1282)	General Physics I-Mechanics (Lecture)	MoWeFr 11:40AM - 12:30PM	To Be Scheduled	C. Covault		●

● Open ■ Closed ▲ Wait List

CANCEL PREVIOUS **FINISH ENROLLING**

STEP 25: The confirm classes screen appears.

STEP 26: Click the finish enrolling button.

VIEW RESULTS

Shopping Cart



3. View results

View the following status report for enrollment confirmations and errors:

Fall 2017 | Undergraduate | Case Western Reserve Univ

Class	Message	Status
ENGL 213	Success: This class has been added to your schedule.	✓
HSTY 108	Success: This class has been added to your schedule.	✓
MATH 120	Success: This class has been added to your schedule.	✓
PHED 13B	Success: This class has been added to your schedule.	✓
PHYS 121	Success: This class has been added to your schedule.	✓

✓ Success: enrolled ✗ Error: unable to add class

MY CLASS SCHEDULE ADD ANOTHER CLASS REQUEST PERMISSION **RETURN TO STUDENT CENTER**

STEP 27: The view results screen appears. If a red X appears, read the error message carefully. Consult the SIS error messages table on Page 54 before proceeding. If you have questions email summerreghelp@case.edu or call 216.368.2928.

STEP 28: Click my class schedule to access your completed schedule. Conduct a final review of your schedule.

STEP 29: Click printer friendly page before printing. Print one copy for your records (optional).

You may continue making changes to your schedule through July 14 and will need to update your First Seminar selections in the New Student Checklist accordingly.

After July 14, first-year students will be able to make schedule adjustments after meeting with their first-year advisor at new student orientation. Once enrolled in classes you may waive your health insurance fee for fall semester if you have outside insurance. Instructions are available at <https://students.case.edu/wellness/medicalplan/waiver/process.html>.

SIS Error Messages

TYPE OF ERROR	ERROR MESSAGE	COURSE OF ACTION
Closed	<p>“Class xxxx is full. If a wait list is available, click Add Another Class to return to step 1. Click the class link, select the wait list and resubmit your request.”</p> <p>Note: Wait list option is not enabled on SIS during the July 11-14 registration period despite being mentioned in this error message.</p>	<p>If you do not need this class, select an alternate class to take (e.g. economics major who would like to take SPAN 310, which is full).</p> <p>If the course is required for your intended major, review options for requesting the course on the next page.</p> <p>We are not able to accommodate requests for closed PHED courses.</p>
Time Conflict	<p>“There is a time conflict for class number xxxx and class number xxxx. There is currently a meeting time conflict for two of your shopping cart classes or a shopping cart class and one of your enrolled classes for this term. Use the class numbers to check the meeting times.”</p>	<p>If this class has multiple selections, pick a different section that is open and fits within your schedule (e.g. student would like to take PSCL 101, should select other section if it fits schedule).</p> <p>If there is only one section for the class or all other sections are closed, find an alternate class to take. However, if you believe both classes are required for your major(s) and conflicts with other classes required for your major(s), contact a representative from Undergraduate Studies to discuss your options.</p>
Prerequisite Not Met	<p>“Unable to add this class—requisites have not been met. Prereq: ABC 1234.”</p>	<p>If you do not meet the prerequisite(s) of the class through AP/IB/transfer credit, find an alternate class to take (e.g. student would like to take MATH 122, but does not have AP/IB/transfer credit for MATH 121).</p> <p>If you believe you have met the prerequisite(s) for the class through AP/IB/transfer credit, check the New Student Checklist or Course History in SIS to confirm that your AP/IB/transfer credit has been posted. If the credit is not posted and you believe that you have completed the steps outlined on the Checklist, contact Undergraduate Studies to inquire on the status of your credit and discuss your options. If you did not complete the required steps, contact Undergraduate Studies (summerreghelp@case.edu) immediately to discuss your options for expediting the credit posting process.</p>
Consent Required	<p>“Instructor Consent Required for this class. You will need to obtain permission to add this class. In order to request permission online, follow the ‘Enroll’ link or tab and select the ‘Permissions’ tab.”</p>	<p>DO NOT SELECT THE PERMISSION TAB. Please request instructor consent through the Schedule Change Request item on the New Student Checklist. See the next page for more information.</p>

Requesting Enrollment in a Closed Course or Course Requiring Instructor Consent

When registering for courses, if a course that is required for your intended major is full, or requires instructor consent, you may submit a Schedule Change Request on the New Student Checklist. You can find this form within the "First-Year Registration" item.

This request will notify Undergraduate Studies that you would like to be enrolled in a course. These requests will be reviewed by Undergraduate Studies, and you will be contacted if there are any questions or concerns about your request. Check your schedule after July 28 to confirm whether or not your request was accommodated.

Please keep in mind we cannot guarantee that all requests will be granted and requests made for courses that are required for a student's intended major will be given priority. Students should first search for alternate courses or other available sections of a course before submitting requests.

Requests for instructor consent

To ensure that requests for instructor consent are reviewed and granted (as applicable) prior to registration, we ask that all students requesting instructor consent submit a Schedule Change Request between July 5-9.

Requests to enroll in a closed course

Requests to enroll in a closed course should only be made during the registration period (July 11-24). Requests to enroll in a closed course made before July 11 will not be reviewed.

Because students are not required to take PHED courses in their first semester, we will not be able to accommodate requests for closed PHED courses. Students are free to add PHED courses during the drop/add period if they become available.

General Education Requirements for All Undergraduates: The SAGES Program and Physical Education – Effective Fall 2017

All undergraduates must complete the SAGES program and physical education requirement, in addition to school-specific general education requirements based on the school of his or her major.

The SAGES program

The First Seminar (four credit-hours, to be taken in the first semester of enrollment): The First Seminar focuses on the development of critical thinking and communication skills through the use of a variety of approaches, media, and perspectives to explore the human mind and the nature of inquiry. This course is designed to strengthen writing and analytical skills, while building a foundation in ethics, information literacy, and cultural diversity.

First Seminar: Natural World (FSNA 1xx)

First Seminar: Social World (FSSO 1xx)

First Seminar: Symbolic World (FSSY 1xx)

As an alternative to these topical seminars, some students may choose FSCC 110: Foundations of College Writing, designed to provide additional writing support.

Students for whom English is a second language and who would benefit from an initial focus on academic English will enroll in FSAE 100: Academic English (three credit-hours) during the fall semester and then continue with FSCC 100: The Life of the Mind (four credit-hours) in the spring to complete their First Seminar requirement. Some students for whom English is a second language will go directly into FSCC 100: Life of the Mind in the fall semester.

University Seminars (six credit-hours, minimum of two seminars; to be completed in the first two years): After completion of the First Seminar, students must complete two University Seminars. University Seminars provide continued experience in critical reading, writing, and oral communication as well as information literacy, ethics, and cultural diversity. Each University Seminar explores content determined according to the interests of the faculty. University Seminars must be completed by end of the fourth semester of enrollment.

University Seminar: Thinking About the Natural World (USNA 2xx)

University Seminar: Thinking About the Social World (USSO 2xx)

University Seminar: Thinking About the Symbolic World (USSY 2xx)

A student's First Seminar and two University Seminars must include a course from each of the three thematic areas: Natural World, Social World, and Symbolic World. Students who complete their First Seminar requirement with FSCC 100 or FSCC 110 may fulfill the University Seminar requirement by choosing two courses from any two of the three thematic areas.

University composition requirement – SAGES writing portfolio: Students develop a writing portfolio comprising final graded writing assignments from the First Seminar and University Seminars. The writing portfolio is due the semester after completing the final University Seminar.

Departmental Seminar (three credit-hours): The Departmental Seminar includes seminar-based discussion as well as instruction and experience in the kinds of writing characteristic of the Departmental Seminar's discipline. It is taken after the completion of the University Seminars, ordinarily in the fourth–sixth semester of study. The Departmental Seminar may be taken in the department of the student's major or in another department. Some majors include and specify a department seminar. Please review the specific requirements of your major(s) in the General Bulletin.

Senior Capstone (three to six credit-hours): The Senior Capstone assimilates the knowledge and skills gained throughout the educational process. Students engage in a unique one- or two-semester experience designed in consultation with a faculty member. Each Capstone Experience must include these key elements:

- Demonstration of critical thinking and writing skills;
- Regular oversight by the Capstone advisor;
- Periodic reporting of progress;
- Regular writing (e.g. drafts, progress reports, critiques) throughout the project including a final written report which may be a thesis or equivalent document associated with the project activity (e.g. such pursuits as performance, experiment, live case analysis, or creative writing), as approved by the department in which the capstone is completed;
- Oral reports including a final public presentation at the Senior Capstone Fair, a conference, a performance, a public lecture, a teaching presentation, or other, as approved by the department in which the capstone is completed.

Some majors include and specify a senior capstone. Please review the specific requirements of your major(s) in the General Bulletin.

Physical Education

All students must complete two full semesters of PHED courses at zero credits. Students may choose from half-semester and full-semester course offerings. If possible, a student should begin meeting this requirement in the first semester and complete it early in his or her undergraduate years.

Schedule Recommendations for First-Year Students Undecided About a Major

Students who are undecided about their choice of major and who are exploring their academic options should try a variety of courses that facilitate the investigation of interests and fulfill general education requirements. The structure of the schedule listed below is meant to serve as a starting point to develop a first-year course schedule. The sample schedule provides significant flexibility for the exploration of various interests while also meeting specific degree requirements.

Students should refer to the relevant general education requirements for each of the schools listed in this guide to determine which courses will meet requirements for the academic areas of greatest interest. For example, if a student knows he or she plans to major in the College of Arts and Sciences, but has not selected an academic field, the student should create a schedule of courses with the general education requirements for the College of Arts and Sciences in mind. Specific course options available to first-year students can be found in the First Year Course Offerings listed in this guide. For more information on the exploration process, students may review the Determining an Academic Focus for Your First Year (Page 7) and the 2017-2018 Undergraduate Majors and Minors (Pages 8-10) sections of this guide.

During the fall semester, students should also plan to consult with their first-year advisors and academic representatives and visit the Career Center for assistance in exploring academic interests and opportunities.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
course in potential area of academic interest	3-4	course in potential area of interest	3-4
course in second potential area of interest	3-4	Choose one: <ul style="list-style-type: none"> course in potential area of academic interest Arts & Humanities, Natural & Mathematical Sciences, or Social Sciences course open elective 	3
Choose one: <ul style="list-style-type: none"> Arts & Humanities, Natural & Mathematical Sciences, or Social Sciences course open elective 	3-4	Choose one: <ul style="list-style-type: none"> Arts & Humanities, Natural & Mathematical Sciences, or Social Sciences course open elective 	3-4
Choose one: <ul style="list-style-type: none"> Arts & Humanities, Natural & Mathematical Sciences, or Social Sciences course open elective no course 	0-4	Choose one: <ul style="list-style-type: none"> Arts & Humanities, Natural & Mathematical Sciences, or Social Sciences course open elective no course 	0-4
PHED activity course(s) or varsity sport	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	15-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Frances Payne Bolton School of Nursing General Education Requirements – Effective Fall 2017

All undergraduates at Case Western Reserve must complete the SAGES Program and the physical education requirement, in addition to school-specific general education requirements based on the school of his or her major.

Course credit earned by Advanced Placement, International Baccalaureate, proficiency examinations, and transfer credit may be used to satisfy School of Nursing general education requirements.

NOTE: Any student who wishes to declare nursing and hasn't already done so must do so by Aug. 1.

Breadth Requirements (minimum of 10 three- or four-credit-hour courses, totaling at least 30 credit-hours)

Arts and Humanities (six to eight credit-hours)

Two three- or four-credit-hour courses selected from:

- Akkadian (AKKD)
- Arabic (ARAB)
- Art History (ARTH)
- Art Studio (ARTS)
- Chinese (CHIN)
- Classics (CLSC)
- Dance (DANC)
- English (ENGL)
- French (FRCH)
- German (GRMN)
- Greek (GREK)
- Hebrew (HBRW)
- History (HSTY)
- Italian (ITAL)
- Japanese (JAPN)
- Latin (LATN)
- Linguistics (LING)
- Music - General (MUGN)
- Music - History (MUHI)
- Music - Theory (MUTH)
- Philosophy (PHIL)
- Portuguese (PORT)
- Religious Studies (RLGN)
- Russian (RUSN)
- Spanish (SPAN)
- Theater (THTR)
- World Literature (WLIT)

Natural and Mathematical Sciences (18 credit-hours)

1. Mathematical Reasoning and Analysis (three credit-hours)
 - ANTH 319, PSCL 282, or STAT 201/201R, with a grade of C or better¹
2. Natural Sciences (15 credit-hours)
 - BIOL 114
 - BIOL 116
 - BIOL 117
 - CHEM 119
 - CHEM 121

Social Sciences (six credit-hours)

1. SOCI 203 or approved course in human growth and development, with a grade of C or better
2. Any additional three-credit-hour social sciences course selected from:
 - Anthropology (ANTH)
 - Cognitive Science (COGS)
 - Communication Sciences (COSI)
 - Economics (ECON)
 - Political Science (POSC)
 - Psychology (PSCL)
 - Sociology (SOCI)

¹A student who successfully completes any one of these courses is not eligible to enroll in either of the other two.

Frances Payne Bolton School of Nursing First-Year Schedule Recommendations

One of the unique characteristics of the CWRU nursing program is that students gain clinical experience in their first year. In light of this, nursing students have very specific knowledge sets and experiences that they must include in each semester schedule. You will see that your first-year schedule is very structured. You will be involved in clinicals, nursing courses, biology courses, SAGES seminars, physical education (including the required CPR/first-aid course), and general education requirement courses. The following schedule development recommendations are based on the assumption that students have not earned any college credit as a result of AP or IB test scores or transfer credit. Students with AP or IB credit should consult the AP and IB Course Equivalences sections to determine appropriate course placement. For example, students with an AP Biology score of 4 or 5 should not enroll in BIOL 114; those with an AP score of 4 will earn credit for BIOL 114, while those with an AP score of 5 will get credit for BIOL 200-TR and will be able to count this in place of BIOL 114 and use it as a prerequisite for subsequent courses.

For more information about the Bachelor of Science in Nursing program in the Frances Payne Bolton School of Nursing, please visit bulletin.case.edu/schoolofnursing/bsn.

Schedule development instructions:

1. Nursing students will be pre-registered for their first-semester nursing and biology courses (noted with an asterisk [*] below) prior to course registration. Do not drop or replace these courses. Only students with AP, IB or transfer credit for the first-semester biology courses may select replacement courses.
2. Students should make course selections in the following areas for the fall semester, keeping in mind that pre-registered biology and nursing courses will occupy certain time blocks during which other classes cannot be scheduled:
 - Arts and Humanities or Social Sciences general education requirements
 - physical education activity course(s) or varsity sport
3. During the fall semester, students will work with their advisor to register for the required nursing and biology courses for the spring semester and to make course selections in the following areas:
 - University Seminar selection
 - physical education activity course(s) or varsity sport
4. Any student who wishes to declare nursing and hasn't already done so must do so by Aug. 1.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
NURS 110 – Foundations of the Discipline*	1	NURS 120 – Nursing Informatics I: Intro	2
NURS 111 – Foundations of the Practice*	3	NURS 122 – Nursing Assessment	3
BIOL 114 – Principles of Biology*	3	NURS 160 – Community Engagement Seminar I	1
BIOL 116 – Introduction to Human Anatomy and Physiology I*	3	NURS 201 – Applied Nutrition in Health & Disease	2
Arts & Humanities or Social Sciences course	3-4	BIOL 117 – Introduction to Human Anatomy and	3
NURS 277 – BCLS and First Aid for Health Care Providers* (as one half-semester of PHED credit)	0	CHEM 119 – Concepts for a Molecular View of Biology	3
		PHED activity course(s) or varsity sport	0
Total Hours	17-18	Total Hours	17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Weatherhead School of Management General Education Requirements – Effective Fall 2017

All undergraduates at Case Western Reserve must complete the SAGES Program and the physical education requirement, in addition to school-specific general education requirements based on the school of his or her major.

Course credit earned by Advanced Placement, International Baccalaureate, proficiency examinations, and transfer credit may be used to satisfy Weatherhead School of Management general education requirements.

Breadth Requirements (minimum of eight three- or four-credit-hour courses, totaling at least 26 credit-hours)

Note: Two courses used to fulfill requirements for the major also may be used to fulfill the breadth requirements.

Arts and Humanities (six to eight credit-hours)

Two three- or four-credit-hour courses selected from:

- Akkadian (AKKD)
- Arabic (ARAB)
- Art History (ARTH)
- Art Studio (ARTS)
- Chinese (CHIN)
- Classics (CLSC)
- Dance (DANC)
- English (ENGL)
- French (FRCH)
- German (GRMN)
- Greek (GREK)
- Hebrew (HBRW)
- History (HSTY)
- Italian (ITAL)
- Japanese (JAPN)
- Latin (LATN)
- Linguistics (LING)
- Music - General (MUGN)
- Music - History (MUHI)
- Music - Theory (MUTH)
- Philosophy (PHIL)
- Portuguese (PORT)
- Religious Studies (RLGN)
- Russian (RUSN)
- Spanish (SPAN)
- Theater (THTR)
- World Literature (WLIT)

Natural and Mathematical Sciences (14-16 credit-hours)

1. MATH 125
2. MATH 126
3. Any two three- or four-credit-hour Natural Science courses selected from:
 - Astronomy (ASTR)
 - Biochemistry (BIOC)
 - Biology (BIOL)
 - Chemistry (CHEM)
 - Earth, Environmental and Planetary Sciences (EEPS)
 - Nutrition (NTRN)
 - Physics (PHYS)

Social Sciences (six credit-hours)

- Any two three-credit-hour Social Science courses except ECON 102 or ECON 103¹ selected from:
- Anthropology (ANTH)
 - Cognitive Science (COGS)
 - Communication Sciences (COSI)
 - Economics (ECON)
 - Political Science (POSC)
 - Psychology (PSCL)
 - Sociology (SOCL)

¹ECON 102 and 103 are included in accounting, business management, finance, and marketing major requirements, as well as the requirements for a WSOM dean's approved major.

Weatherhead School of Management First-Year Schedule Recommendations

The Weatherhead School of Management offers degrees in accounting and management. (See the College of Arts and Sciences for the economics major.) Students who pursue a degree in management will choose a major in finance, marketing, or business management. The sample schedules listed below demonstrate that while there are key courses that should be included in the first year, students interested in these majors also have a great deal of flexibility in building their first and second semester schedules. Students considering these majors should, at a minimum, enroll in an appropriate MATH course and ACCT 101. For more information about Weatherhead's undergraduate programs, visit bulletin.case.edu/weatherheadschoolofmanagement/undergradpgrams.

Schedule development instructions:

1. Students placed into MATH 120 will include that course the first semester and MATH 125 in the second semester.
2. Students with AP, IB or college credit for Calculus I may register for Calculus II in their first semester and OPRE 207 in the second semester.
3. Students with credit for Calculus I and II may take OPRE 207 in the fall semester or a general education/elective course.
4. Accounting and management majors typically complete the Math 125/126 sequence. Students who receive AP credit for Math 121 – Calculus I may choose Math 126. Math 121/122 is recommended for students who might be interested in taking additional math courses beyond Calculus II.
5. Students with credit for both ECON 102 and ECON 103 should take a general education course or open elective in place of these courses.
6. Students interested in pursuing enhanced courses in math and/or physics should review the course descriptions and registration information in this guide. Please note that enrollment in enhanced math and physics courses is limited and by invitation only.
7. Students should try to include a University Seminar in their second semester. However, students may defer their two University Seminars until the second year.
8. Students should plan to enroll in courses totaling 14-17 credit-hours in the first semester. This will ordinarily mean three or four academic, credit-bearing courses, in addition to First Seminar.

BS in Accounting

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar or MGMT 201	3
MATH course in the 120/125/126 sequence based on math diagnostic, AP/IB scores, and/or previous college credit	3-4	Next course in MATH sequence	4
ACCT 101 – Introduction to Financial Accounting	3	ACCT 102 – Management Accounting	3
Choose one: <ul style="list-style-type: none"> • ECON 102 – Principles of Microeconomics • ECON 103 – Principles of Macroeconomics • Arts & Humanities, Natural & Mathematical Sciences, or Social Science course • open elective 	3-4	ACCT 207 – Excel Applications and Modeling	3
Choose one (optional): <ul style="list-style-type: none"> • Arts & Humanities, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • ECON 102 – Principles of Microeconomics • ECON 103 – Principles of Macroeconomics • Arts & Humanities, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	16-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

BS in Management (Business Management, Finance, or Marketing)

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/125/126 sequence based on math diagnostic, AP/IB scores, and/or previous college credit	3-4	Next course in MATH sequence	4
ACCT 101 – Introduction to Financial Accounting	3	ACCT 102 – Management Accounting	3
Choose one: <ul style="list-style-type: none"> • ECON 102 – Principles of Microeconomics • ECON 103 – Principles of Macroeconomics • Arts & Humanities, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • ECON 102 – Principles of Microeconomics • ECON 103 – Principles of Macroeconomics • Arts & Humanities, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one (optional): <ul style="list-style-type: none"> • Arts & Humanities, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • MGMT 201 or Arts & Humanities, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	16-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Case School of Engineering General Education Requirements – Effective Fall 2017

All undergraduates at Case Western Reserve must complete the SAGES Program and the physical education requirement, in addition to school-specific general education requirements based on the school of his or her major.

Course credit earned by Advanced Placement, International Baccalaureate, proficiency examinations, and transfer credit may be used to satisfy Case School of Engineering general education requirements.

Mathematics, Sciences, and Engineering Core Requirements (44 credit-hours)¹

Mathematics (14 credit-hours)

1. MATH 121
2. MATH 122 or 124
3. MATH 223 or 227
4. MATH 224 or 228

Chemistry (four credit-hours)

1. CHEM 111²

Physics (eight credit-hours)

1. PHYS 121 or 123
2. PHYS 122 or 124

Engineering (18 credit-hours)

1. ENGR 131 or EECS 132³
2. ENGR 145²
3. ENGR 200
4. ENGR 210
5. ENGR 225⁴

Natural Sciences, Mathematics, or Statistics Requirement (three credit-hours)

Course designated by major department.

Humanities and Social Sciences (15 credit-hours)

1. ENGL 398 (two credit-hours) and ENGR 398 (one credit-hour); together, these courses fulfill the departmental seminar requirement.
2. At least 12 credit-hours comprised of three- or four-credit-hour courses selected from:

- **Humanities:**

- Akkadian (AKKD)
- Arabic (ARAB)
- Art History (ARTH)
- Art Studio (ARTS)
- Chinese (CHIN)
- Classics (CLSC)
- Dance (DANC)
- English (ENGL)
- French (FRCH)
- German (GRMN)
- Greek (GREK)
- Hebrew (HBRW)
- History (HSTY)
- Italian (ITAL)
- Japanese (JAPN)
- Latin (LATN)
- Linguistics (LING)
- Music - General (MUGN)
- Music - History (MUHI)
- Music - Theory (MUTH)
- Philosophy (PHIL)
- Portuguese (PORT)
- Religious Studies (RLGN)
- Russian (RUSN)
- Spanish (SPAN)
- Theater (THTR)
- World Literature (WLIT)

- **Social Sciences:**
 - Anthropology (ANTH)
 - Cognitive Science (COGS)
 - Communication Sciences (COSI)
 - Economics (ECON)
 - Political Science (POSC)
 - Psychology (PSCL)
 - Sociology (SOCL)

 - **Other courses that meet this requirement for Case School of Engineering degree candidates:**
 - Applied Social Sciences (SASS)
 - Bioethics (BETH)
-

¹Students completing the Bachelor of Science in computer science (as opposed to the Bachelor of Science in engineering with a major in one of the engineering disciplines) are not required to take ENGR 200, 210, or 225. Students completing the Bachelor of Science in data science and analytics (as opposed to the Bachelor of Science in engineering with a major in one of the engineering disciplines) are not required to take ENGR 145, 200, 210, or 225.

²The Chemistry-Materials course sequence (CHEM 105, CHEM 106, ENGR 145) may substitute for the sequence CHEM 111, ENGR 145.

³Note that some majors (computer engineering, computer science, the computer-oriented concentrations in biomedical engineering, and data science and analytics) specifically require EECS 132.

⁴Students pursuing a polymer science and engineering major or the biomaterials concentration in the biomedical engineering major may substitute EMAC 351 and 352 for ENGR 225. Students pursuing majors in aerospace or mechanical engineering may substitute EMAE 251, 253, and 353 for ENGR 225.

Case School of Engineering First-Year Schedule Recommendations

Aerospace Engineering

Schedule development instructions:

1. Students with AP or IB chemistry credit should proceed to ENGR 145.
2. Students with credit for PHYS 121 should register for PHYS 122 (assuming prerequisites are met).
3. EECS 132 – Introduction to Programming in Java may be substituted for the ENGR 131 requirement.
4. Students without any previous credit for the recommended fall semester courses should enroll in all four or otherwise risk delay-ing progress in the major.

For more information about aerospace engineering, visit bulletin.case.edu/schoolofengineering/mechaeroeng.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence based on the math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	3-4
CHEM 111 – Principles of Chemistry for Engineers	4	ENGR 145 – Chemistry of Materials	4
Choose one: <ul style="list-style-type: none"> • PHYS 121 – General Physics I – Mechanics (if eligible for MATH 121 or beyond) • ENGR 131 – Elementary Computer Programming (if placed in MATH 120) 	3-4	Choose one: <ul style="list-style-type: none"> • PHYS 121 – General Physics I – Mechanics or PHYS 122 – General • Physics II – Electricity & Magnetism 	4
PHED activity course(s) or varsity sport, if available	0	ENGR 131 – Elementary Computer Programming (if not taken in the fall)	3
		PHED activity course(s) or varsity sport	0
Total Hours	14-16	Total Hours	15-18

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Biomedical Engineering

Schedule development instructions:

1. Students who place into MATH 120 via the math diagnostic exam must successfully complete this course before enrolling in PHYS 121.
2. It is important for students to follow the recommendations for the timing of MATH courses, as well as CHEM 111, ENGR 131, and PHYS 121 so as to make timely progress in the major and avoid future complications. Students who place into MATH 120 for the fall semester should discuss with the Academic Representative summer options for completing MATH 122 before the start of the second year.
3. Students may choose to prioritize/arrange core courses based on the following orientations (if known):
 - **Electrical:** Students should complete PHYS 121 and 122 as early as possible. Students with no prior PHYS credit should take PHYS 121 in the fall (if eligible) and PHYS 122 and ENGR 131 in the spring.
 - **Computer engineering/computer science:** Take EECS 132 in the fall. (Students who have credit for ENGR 131 should still take EECS 132.) Students with credit for EECS 132 are encouraged to take ENGR 131. Though it is not strictly required, it will aid in later classes. These students should take PHYS 121 after credit for MATH 121 is earned.
 - **Mechanical/biomechanical engineering:** Students may choose ENGR 200 in the spring rather than ENGR 145. Students pursuing the biomechanics track will need to take ECIV 310 in the fall of the second year. It is highly recommended that ENGR 200 and ECIV 310 be taken in subsequent semesters. These students should take PHYS 121 after credit for MATH 121 is earned, and take ENGR 145 in the second year.
 - **Chemistry/biomaterials engineering:** Take CHEM 111 in the fall semester. Students with AP/IB chemistry credit should take ENGR 145 in the fall. Take PHYS 121 after credit for MATH 121 has been earned.
 - **Pre-Health:** Take CHEM 111 and ENGR 145 as soon as possible.
4. Students who are uncertain of any particular orientation in BME should follow the standard recommendations on the course grid below.
5. Students interested in the biomedical computing and analysis track should take EECS 132.
6. EECS 132 – Introduction to Programming in Java may be substituted for the ENGR 131 requirement.
7. EBME 105 or EBME 105A are optional, but strongly recommended for students with limited knowledge of biomedical engineering or who are unsure of the biomedical engineering sequence they wish to pursue. EBME 105A provides information about the study of biomedical engineering at CWRU, opportunities within the various tracks, and associated research. EBME 105 includes these topics and in addition includes topics such as medical technology, careers, engineering design, structure/function relationships, biomimicry, and biocompatibility.

For more information about biomedical engineering, visit bulletin.case.edu/schoolofengineering/biomedicalengineering.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence based on the math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	3-4
Choose one: <ul style="list-style-type: none"> • ENGR 131 – Elementary Computer Programming (preferred) • PHYS 121 – General Physics I – Mechanics (only if eligible for MATH 121 and with credit for ENGR 131 or EECS 132) 	3-4	Choose whichever wasn't taken in fall: <ul style="list-style-type: none"> • PHYS 121 – General Physics I – Mechanics • ENGR 131 – Elementary Computer Programming 	3-4
CHEM 111 – Principles of Chemistry for Engineers	4	ENGR 145 – Chemistry of Materials	4
Choose one: <ul style="list-style-type: none"> • EBME 105 – Introduction to Biomedical Engineering (three credits) • EBME 105A – Exploring Biomedical Engineering (one credit) • Engineering core course • Arts & Humanities or Social Sciences course • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities or Social Sciences course • PHYS 122 – General Physics II – Electricity & Magnetism (if PHYS 121 taken in the fall) 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-19	Total Hours	16-19

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Chemical Engineering

Schedule development instructions:

1. Students with AP or IB chemistry credit should proceed to ENGR 145.
2. Students with credit for PHYS 121 should proceed to PHYS 122 (assuming prerequisites are met).
3. EECS 132 – Introduction to Programming in Java may substitute for the ENGR 131 requirement.
4. Chemical engineering students should take ECHE 151 during the fall of their first year, and should complete CHEM 111 and ENGR 145 during the first year.

For more information about chemical engineering, visit bulletin.case.edu/schoolofengineering/chemicalengineering.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence based on the math diagnostic, AP/IB	3-4	next course in MATH sequence	3-4
Choose one: <ul style="list-style-type: none"> • PHYS 121 – General Physics I – Mechanics (if eligible for MATH 121) • ENGR 131 – Elementary Computer Programming (if placed in MATH 120) 	3-4	Choose one: (whichever not taken in fall) <ul style="list-style-type: none"> • ENGR 131 – Elementary Computer Programming • PHYS 121 – General Physics I – Mechanics 	3-4
CHEM 111 – Principles of Chemistry for Engineers	4	ENGR 145 – Chemistry of Materials	4
ECHE 151 – Introduction to Chemical Engineering at Case Western Reserve University	1	Choose one: <ul style="list-style-type: none"> • PHYS 122 – General Physics II – Electricity and Magnetism (preferred if PHYS 121 was taken in the fall) • Arts & Humanities or Social Sciences course 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	15-17	Total Hours	16-19

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Civil Engineering

Schedule development instructions:

1. Students with AP or IB chemistry credit can proceed to ENGR 145 or select another recommended course to take in place of CHEM 111.
2. EECS 132 – Introduction to Programming in Java may substitute for the ENGR 131 requirement.
3. Students with credit for ENGR 131 or EECS 132 should register for PHYS 121. Students with credit for both ENGR 131/EECS 132 and PHYS 121 should register for PHYS 122 (assuming prerequisites are met).
4. Students without any previous credit should follow the fall semester schedule recommendations.
5. Students interested in learning about the field of civil engineering might consider including ECIV 160 – Surveying and Computer Graphics – in their fall semester schedule.

For more information about civil engineering, visit bulletin.case.edu/schoolofengineering/civilengineering.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence based on the math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	3-4
Choose one: <ul style="list-style-type: none"> • ENGR 131 – Elementary Computer Programming (preferred) • PHYS 121 – General Physics I – Mechanics (only if eligible for MATH 121 and with credit for ENGR 131 or EECS 132) 	3-4	Choose one: <ul style="list-style-type: none"> • PHYS 121 – General Physics I – Mechanics • ENGR 131 – Elementary Computer Programming (if not taken in the fall) 	3-4
CHEM 111 – Principles of Chemistry for Engineers	4	ENGR 145 – Chemistry of Materials	4
Arts & Humanities or Social Sciences course	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities or Social Science course • PHYS 122 – General Physics II – Electricity & Magnetism (if PHYS 121 taken in the fall) 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	17-19	Total Hours	16-19

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Computer Engineering

Schedule development instructions:

1. Students who place into MATH 120 via the math diagnostic exam must successfully complete this course before enrolling in PHYS 121.
2. Students with credit for MATH 122 or MATH 223 have the option of moving on to the next course in the sequence (MATH 223 or MATH 224), or may choose to take another required course instead.
3. Students with AP or IB chemistry credit have the choice to proceed to ENGR 145 or take PHYS 121 and delay ENGR 145 until the spring semester.
4. Students with credit for EECS 132 should consider taking EECS 233 or EECS 281.
5. EECS 132 should be taken in the first semester; it is important for students to take EECS 233 and EECS 281 as early as possible.

For more information about computer engineering and related majors, visit bulletin.case.edu/schoolofengineering/elecengcompsci.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence based on the math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	3-4
Choose one: <ul style="list-style-type: none"> • EECS 132 – Introduction to Programming in Java (preferred) • PHYS 121 – General Physics I – Mechanics (if credit for EECS 132 has already been earned) 	3-4	Choose one: <ul style="list-style-type: none"> • PHYS 121 – General Physics I – Mechanics • EECS 132 – Introduction to Programming in Java (if not taken in the fall) 	3-4
CHEM 111 – Principles of Chemistry for Engineers	4	ENGR 145 – Chemistry of Materials	4
PHED activity course(s) or varsity sport, if available	0	Choose one: <ul style="list-style-type: none"> • Arts & Humanities or Social Science course • technical elective or EECS course of interest • PHYS 122 – General Physics II – Electricity & Magnetism (if PHYS 121 taken in the fall) 	3-4
		PHED activity course(s) or varsity sport	0
Total Hours	14-16	Total Hours	16-19

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Computer Science (BS)

For information about the BA in computer science see Page 92.

Schedule development instructions:

1. Students who place into MATH 120 via the math diagnostic exam must successfully complete this course before enrolling in PHYS 121.
2. Students with credit for MATH 121 should proceed to MATH 122.
3. Students with credit for MATH 122 or MATH 223 have the option of moving on to the next course in the sequence (MATH 223 or MATH 224), or they may choose to take another required course instead. (Students may consider EECS 302, for example.)
4. Students with AP or IB chemistry credit should proceed to ENGR 145.
5. Students with credit for EECS 132 may choose to take a higher-level EECS course (e.g. EECS 233 or 281) or take PHYS 121.
6. EECS 132 is required for upper-level computer science courses. Students who have credit for ENGR 131 will need to earn credit for EECS 132 should they later choose to pursue a computer science degree.

For more information about computer science and related majors, visit bulletin.case.edu/schoolofengineering/elecengcompsci.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence based on the math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	3-4
Choose one: <ul style="list-style-type: none"> • EECS 132 – Introduction to Programming in Java (preferred) • PHYS 121 – General Physics I – Mechanics (if credit for EECS 132 has already been earned and MATH course is 121 or beyond) 	3-4	Choose one: <ul style="list-style-type: none"> • PHYS 121 – General Physics I – Mechanics • EECS 132 – Introduction to Programming in Java (if not taken in the fall) 	3-4
CHEM 111 – Principles of Chemistry for Engineers	4	ENGR 145 – Chemistry of Materials	4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities or Social Sciences course • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities or Social Sciences course • technical elective or EECS course of interest • PHYS 122 – General Physics II – Electricity & Magnetism (if PHYS 121 taken in the fall) 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	16-19

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Data Science and Analytics

Schedule development instructions:

1. Students interested in a data science and analytics major should enroll in EECS 132 in the fall semester so they are prepared to take DSCI 133 in the spring. Students who have credit for EECS 132 may instead take a general education course or open elective in the fall.
2. Students with credit for CHEM 111 should enroll in PHYS 121 (assuming prerequisites are met).

For more information about data science and analytics, visit case.edu/datascience.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence based on the math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	3-4
CHEM 111 – Principles of Chemistry for Engineers	3-4	PHYS 121 – General Physics I - Mechanics	4
EECS 132 – Introduction to Programming in Java	3	DSCI 133 – Introduction to Data Science	3
PHED activity course(s) or varsity sport, if available	0	Choose one: <ul style="list-style-type: none"> • Arts & Humanities or Social Sciences course • open elective 	3-4
		PHED activity course(s) or varsity sport	0
Total Hours	14-15	Total Hours	13-14

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Electrical Engineering

Schedule development instructions:

1. Students with AP or IB chemistry credit should take PHYS 121 and can delay ENGR 145 until the spring semester.
2. EECS 132 – Introduction to Programming in Java may substitute for the ENGR 131 requirement.
3. Students with credit for EECS 132/ENGR 131 should take EECS 281 or PHYS 121.
4. Students with credit for both EECS 132/ENGR 131 and PHYS 121 should take EECS 281 and/or PHYS 122 (assuming prerequisites are met).
5. Students intending to pursue the electrical engineering major must complete MATH 121, MATH 122, ENGR 131, and PHYS 121 by the start of the second year.

For more information about electrical engineering and related majors, visit bulletin.case.edu/schoolofengineering/elecengcompsci.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence based on the math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	3-4
Choose one: <ul style="list-style-type: none"> • EECS 132 – Introduction to Programming in Java (preferred) • PHYS 121 – General Physics I – Mechanics (if credit for EECS 132 has already been earned and MATH course is 121 or beyond) 	3-4	Choose one: <ul style="list-style-type: none"> • PHYS 121 – General Physics I – Mechanics • EECS 132 – Introduction to Programming in Java (if not taken in the fall) 	3-4
CHEM 111 – Principles of Chemistry for Engineers	4	ENGR 145 – Chemistry of Materials	4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities or Social Sciences course • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities or Social Sciences course • technical elective or EECS course of interest • PHYS 122 – General Physics II – Electricity & Magnetism (if PHYS 121 taken in the fall) 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	16-19

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Engineering Physics

Schedule development instructions:

1. Students with AP or IB chemistry credit should proceed to ENGR 145.
2. Students with credit for PHYS 121 should register for PHYS 122 (if prerequisites are met).
3. EECS 132 – Introduction to Programming in Java may substitute for the ENGR 131 requirement.
4. Students should take PHYS 121 in the fall and PHYS 122 in the spring (if eligible, based on prerequisites) so that PHYS 211 can be taken in fall semester of the second year. Students who are not able to take PHYS 121 until the spring should speak with the academic representative for the engineering physics major about summer course options.
5. Students planning on computer science or computer engineering as a concentration in engineering physics should enroll in EECS 132 instead of ENGR 131.
6. PHYS 166 – Physics Today and Tomorrow is not required, but is strongly recommended for students with an interest in physics.

For more information about engineering physics, visit bulletin.case.edu/schoolofengineering/engineeringphysics.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence based on the math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	3-4
Choose one: <ul style="list-style-type: none"> • PHYS 121 – General Physics I – Mechanics (if eligible for MATH 121) • ENGR 131 – Elementary Computer Programming (if placed in MATH 120) 	3-4	Choose one: <ul style="list-style-type: none"> • PHYS 121 – General Physics I – Mechanics (if not taken in the fall) • PHYS 122 – General Physics II – Electricity & Magnetism 	4
CHEM 111 – Principles of Chemistry for Engineers	4	ENGR 145 – Chemistry of Materials	4
PHYS 166 – Physics Today and Tomorrow	1	ENGR 131 – Elementary Computer Programming (if not taken in the fall)	3
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	15-17	Total Hours	15-18

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Engineering (Undesignated)

Schedule development instructions:

1. Students who place into MATH 120 via the math diagnostic exam must first successfully complete this course before enrolling in PHYS 121.
2. Students with calculus credit should proceed to the next course in the sequence:
 - Credit for MATH 121 ----> MATH 122
 - Credit for MATH 122 ----> MATH 223
 - Credit for MATH 223 ----> MATH 224
3. Students with AP or IB chemistry credit can proceed to ENGR 145 or select another recommended course to take in place of CHEM 111.
4. Students with credit for PHYS 121 can proceed to PHYS 122 (if prerequisites are met) or take a programming course (ENGR 131 or EECS 132, depending on major(s) of interest).
5. Students who are considering but have not decided between engineering majors that have different basic programming requirements (ENGR 131 vs. EECS 132) may delay taking a programming course until spring semester.
6. Students who are also considering a major outside of the Case School of Engineering should take the MATH, CHEM, and PHYS courses that satisfy engineering core requirements. See the information for selecting math, chemistry, and physics courses in this guide.
7. Students who are considering specific engineering majors may benefit from taking an introductory course such as EBME 105, EBME 105A, ECHE 151, EMSE 110, EMSE 125, or EMAC 125. Explore the schedule development recommendations for any engineering majors of interest for more information.

For more information about engineering (undesignated), visit bulletin.case.edu/schoolofengineering/engineeringundesignated.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	Choose one: <ul style="list-style-type: none"> • SAGES University Seminar • Arts & Humanities or Social Sciences course • engineering course of interest • PHYS 122 – General Physics II – Electricity & Magnetism (if PHYS 121 taken in the fall) 	3-4
MATH course in the 120/121/122/223/224 sequence based on the math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	3-4
Choose one: <ul style="list-style-type: none"> • ENGR 131 for all engineering majors except computer science or computer engineering • EECS 132 for computer science and computer engineering majors • PHYS 121 – General Physics I – Mechanics 	3-4	Choose one: <ul style="list-style-type: none"> • PHYS 121 – General Physics I – Mechanics • ENGR 131/EECS 132 (if not taken in the fall) 	3-4
CHEM 111 – Principles of Chemistry for Engineers	4	ENGR 145 – Chemistry of Materials	4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-16	Total Hours	14-16

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Materials Science and Engineering

Schedule development instructions:

1. Students who place into MATH 120 via the math diagnostic exam must first successfully complete this course before enrolling in PHYS 121.
2. Students with AP or IB chemistry credit should take PHYS 121 in place of CHEM 111 if they have had calculus in high school, or take a general education (Arts and Humanities or Social Sciences) course if they have not had calculus.
3. Students with credit for PHYS 121 may take PHYS 122 (assuming prerequisites are met) in the fall or spring semester, and should take a general education course in place of physics during the semester in which they are not enrolled in physics. Such students may also elect to take ENGR 200 in the spring if their schedules allow.
4. Students may delay the start of the physics sequence (PHYS 121) to their second semester.
5. EECS 132 – Introduction to Programming in Java may substitute for the ENGR 131 requirement.
6. Students should complete ENGR 145 by the start of the second year and MATH 224 by the start of the third year.
7. Students should complete ENGR 131 (or EECS 132), EMSE 110, and EMSE 120 in their first year. However, EMSE 110 (fall) and EMSE 120 (spring) are not required to be completed in the first year and can be taken in either order.
8. Students interested in doing research in the field of materials science should consider including EMSE 125 – Freshman Research in Materials Science & Engineering (1 credit-hour) in their fall or spring semester schedule.

For more information about materials science & engineering, visit bulletin.case.edu/schoolofengineering/materialsscienceengineering.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence based on the math diagnostic, AP/IB scores, and/or previous college credit	3-4	Next course in MATH sequence	3-4
Choose one: <ul style="list-style-type: none"> • ENGR 131 – Elementary Computer Programming (preferred) • PHYS 121 – General Physics I – Mechanics 	3-4	Choose one: <ul style="list-style-type: none"> • PHYS 121 – General Physics I – Mechanics • ENGR 131 – Elementary Computer Programming (if not taken in the fall) 	3-4
CHEM 111 – Principles of Chemistry for Engineers	4	ENGR 145 – Chemistry of Materials	4
EMSE 110 – Transitioning Ideas to Reality I – Materials in Service of Industry and Society	1	EMSE 120 – Transitioning Ideas to Reality II – Manufacturing Laboratory	2
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	15-17	Total Hours	15-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Mechanical Engineering

Schedule development instructions:

1. Students with AP or IB chemistry credit should proceed to ENGR 145.
2. Students with credit for PHYS 121 should register for PHYS 122 (assuming prerequisites are met).
3. EECS 132 – Introduction to Programming in Java may substitute for the ENGR 131 requirement.
4. Students without any previous credit for the recommended fall semester courses should enroll in all four or otherwise risk delaying progress in the major.

For more information about mechanical engineering, visit bulletin.case.edu/schoolofengineering/mechaeroeng.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence based on the math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	3-4
CHEM 111 – Principles of Chemistry for Engineers	4	ENGR 145 – Chemistry of Materials	4
Choose one: <ul style="list-style-type: none"> • PHYS 121 – General Physics I – Mechanics (if eligible for MATH 121 or beyond) • ENGR 131 – Elementary Computer Programming (if placed in MATH 120) 	3-4	Choose one: <ul style="list-style-type: none"> • PHYS 121 – General Physics I – Mechanics • PHYS 122 – General Physics II – Electricity & Magnetism 	4
PHED activity course(s) or varsity sport, if available	0	ENGR 131 – Elementary Computer Programming (if not taken in the fall)	3
		PHED activity course(s) or varsity sport	0
Total Hours	14-16	Total Hours	15-18

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Polymer Science and Engineering

Schedule development instructions:

1. Students with AP or IB chemistry credit should proceed to ENGR 145.
2. Students with credit for PHYS 121 should proceed to PHYS 122 (assuming prerequisites are met).
3. EECS 132 – Introduction to Programming in Java may substitute for the ENGR 131 requirement.
4. In the polymer science and engineering major, it is important that students earn credit for ENGR 145 in their first year (fall or spring semester) so that EMAC 270 can be taken in fall semester of the second year.
5. Students interested in learning about the field of polymer science might consider including EMAC 125 – Freshmen Research on Polymers in their fall semester schedule. Contact Professor David Schiraldi (david.schiraldi@case.edu) for information on enrolling.

For more information about polymer science and engineering, visit bulletin.case.edu/schoolofengineering/macromolecularscieng.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence based on the math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	3-4
Choose one: <ul style="list-style-type: none"> • PHYS 121 – General Physics I – Mechanics (if eligible for MATH 121) • ENGR 131 – Elementary Computer Programming (if placed in MATH 120) 	3-4	Choose one: <ul style="list-style-type: none"> • PHYS 121 – General Physics I – Mechanics (if not taken in the fall) • ENGR 131 – Elementary Computer Programming 	3- 4
CHEM 111 – Principles of Chemistry for Engineers	4	ENGR 145 – Chemistry of Materials	4
PHED activity course(s) or varsity sport, if available	0	Choose one: <ul style="list-style-type: none"> • PHYS 122 – General Physics II – Electricity and Magnetism (preferred if PHYS 121 was taken in the fall) • PHYS 124 – Physics and Frontiers II • Arts & Humanities or Social Sciences course 	3-4
		PHED activity course(s) or varsity sport	0
Total Hours	14-16	Total Hours	16-19

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Systems and Control Engineering

Schedule development instructions:

1. Students who place into MATH 120 via the math diagnostic must successfully complete this course before enrolling in PHYS 121.
2. Students with AP or IB chemistry credit may proceed to ENGR 145 or take PHYS 121 and delay ENGR 145 until the spring semester.
3. EECS 132 – Introduction to Programming in Java may substitute for the ENGR 131 requirement.
4. Students with credit for ENGR 131 or EECS 132 may take PHYS 121; students with credit for both PHYS 121 and ENGR 131/EECS 132 may take PHYS 122.

For more information about systems and control engineering and related majors, visit bulletin.case.edu/schoolofengineering/elecengcompsci.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence based on the math diagnostic, AP/IB	3-4	next course in MATH sequence	3-4
Choose one: <ul style="list-style-type: none"> • ENGR 131 – Elementary Computer Programming (preferred) • PHYS 121 – General Physics I – Mechanics (if credit for ENGR 131/EECS 132 has been earned and MATH course is 121 or beyond) 	3-4	Choose one: <ul style="list-style-type: none"> • PHYS 121 – General Physics I – Mechanics • ENGR 131 – Elementary Computer Programming (if not taken in the fall) 	3-4
CHEM 111 – Principles of Chemistry for Engineers	4	ENGR 145 – Chemistry of Materials	4
open elective; can be moved to fall semester of the	0-3	PHED activity course(s) or varsity sport	0
PHED activity course(s) or varsity sport, if available	0		
Total Hours	14-17	Total Hours	14-16

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

College of Arts & Sciences General Education Requirements – Effective Fall 2017

All undergraduates at Case Western Reserve must complete the SAGES Program and the physical education requirement, in addition to school-specific general education requirements based on the school of his or her major.

Students pursuing a degree in the College of Arts and Sciences may not fulfill the Departmental Seminar requirement with a course that is being used to fulfill and Arts & Humanities, Social Sciences, or Natural & Mathematical Sciences breadth requirement. A course that has been designated as a Departmental Seminar and that also falls into the Global and Cultural Diversity category may be used to fulfill both requirements.

Course credit earned by Advanced Placement, International Baccalaureate, A-levels and similar programs offered by high schools, by proficiency exams and by courses taken at domestic and international universities may be applied to elective credit as determined by the academic departments of the College, and may be used to satisfy some general education requirements as described under each heading below.

Breadth Requirements

(minimum of six three- or four-credit-hour courses totaling 18 credit-hours)

One-half or more of the breadth requirement courses in each breadth area must be taken on campus. Credit earned for Advanced Placement, International Baccalaureate, A-levels and similar programs offered in high schools, or by proficiency exams may be used to satisfy up to one-half of this requirement if the credit is equivalent to specific courses taught at CWRU. AP, IB, and A-level credit equivalents ending in "TR" may not be used to satisfy the breadth requirements. Pre-matriculation and post matriculation transfer credit for work done at other institutions—for example, at colleges or universities prior to matriculating at CWRU, during the summer or in an approved Study Abroad program—may be applied to satisfy part of this requirement if approved by the appropriate department.

Note: Two courses used to fulfill requirements for the major also may be used to fulfill the breadth requirements.

Arts and Humanities (six to eight credit-hours)

Two three- or four-credit-hour courses selected from:

- Akkadian (AKKD)
- Arabic (ARAB)
- Art History (ARTH)
- Art Studio (ARTS)
- Chinese (CHIN)
- Classics (CLSC)
- Dance (DANC)
- English (ENGL)
- French (FRCH)
- German (GRMN)
- Greek (GREK)
- Hebrew (HBRW)
- History (HSTY)
- Italian (ITAL)
- Japanese (JAPN)
- Latin (LATN)
- Linguistics (LING)
- Music - General (MUGN)
- Music - History (MUHI)
- Music - Theory (MUTH)
- Philosophy (PHIL)
- Portuguese (PORT)
- Religious Studies (RLGN)
- Russian (RUSN)
- Spanish (SPAN)
- Theater (THTR)
- World Literature (WLIT)

Natural and Mathematical Sciences (six to eight credit-hours)

Two three- or four-credit-hour courses selected from:

- Astronomy (ASTR)
- Biochemistry (BIOC)
- Biology (BIOL)
- Chemistry (CHEM)
- Earth, Environmental and Planetary Sciences (EEPS)
- Mathematics (MATH)
- Nutrition (NTRN)
- Physics (PHYS)
- Statistics (STAT)

Social Sciences (six credit-hours)

Two three-credit-hour courses selected from:

- Anthropology (ANTH)
- Cognitive Science (COGS)
- Communication Sciences (COSI)
- Economics (ECON)
- Political Science (POSC)
- Psychology (PSCL)
- Sociology (SOCL)

Quantitative Reasoning (three to four credit-hours)

Each student must complete at least one three- or four-credit-hour course identified as a quantitative reasoning course selected from the list included in the General Bulletin. The course used to meet this requirement may also be used to fulfill a major, minor, and/or breadth requirement.

Course credit earned by Advanced Placement, International Baccalaureate, A-levels and similar programs offered by high schools, by proficiency exams, by courses taken at domestic colleges and universities or in an approved Study Abroad program may be used to satisfy the quantitative reasoning requirement if the credit is equivalent to the specific CWRU courses that satisfy the requirement.

Global and Cultural Diversity (three to four credit-hours)

Each student must complete at least one three- or four-credit-hour course selected from the list included in the General Bulletin. The goal of the Global and Cultural Diversity requirement is to provide students with the opportunity for academic reflection about the variation in human experience. Courses that satisfy this requirement 1) substantively explore one or more cultures outside the United States, or 2) address in a substantive way ethnic, gender, sexual, religious, or other cultural practices within or outside the United States, so as to provide students with fresh perspectives on their own cultural assumptions, traditions, and experiences. The course used to meet this requirement may also be used to fulfill a major, minor, and/or breadth requirement.

Course credit earned by Advanced Placement, International Baccalaureate, A-levels and similar programs offered at high schools may not be used to satisfy the Global and Cultural Diversity Requirement. Transfer credits for college-level course work done at other institutions—for example, prior to matriculation, during the summer, or in an approved Study Abroad program—may be applied to this requirement if approved by the appropriate department.

**College of Arts and Sciences
First-Year Schedule Development Recommendations**

Anthropology

Schedule development instructions:

1. Four concentrations are available within the anthropology major: general anthropology, medical anthropology, archaeology, and physical anthropology. Students should consult the General Bulletin to see specific course requirements for each concentration.
2. Students interested in archaeology may want to consider ANTH 107 – Archaeology: An Introduction as a first-semester survey course.
3. Students interested in medical anthropology may want to consider ANTH 215 – Health, Culture, and Disease: An Introduction to Medical Anthropology. If this course is full, keep in mind that it is offered in spring as well.
4. Students should complete ANTH 102 before enrolling in a 300-level ANTH course.

For more information about anthropology, visit bulletin.case.edu/collegeofartsandsciences/anthropology.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
Choose one: <ul style="list-style-type: none"> • ANTH 102 – Being Human: An Introduction to Social and Cultural Anthropology • ANTH 103 – Introduction to Human Evolution 	3	Choose one: <ul style="list-style-type: none"> • ANTH 102 – Being Human: An Introduction to Social and Cultural Anthropology • ANTH 103 – Introduction to Human Evolution 	3
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • ANTH requirement • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	15-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Art Education

Schedule development instructions:

1. Students interested in pursuing the art education major should contact Professor Timothy Shuckerow, director of the art education program (tim.shuckerow@case.edu), to arrange for an art portfolio submission and review.
2. Prospective art education majors should contact Professor Shuckerow for guidance when selecting ARTS courses.
3. Students with AP credit for ARTS courses should contact Professor Shuckerow for consultation regarding the selection of additional ARTS courses. Students with credit for PSCL 101 should do the same.
4. Students will register for art studio courses in consultation with Professor Shuckerow.
5. First-Year students should consider ARTS 101 – Design and Color I and ARTS 106 – Creative Drawing I.

For more information about art education, visit bulletin.case.edu/collegeofartsandsciences/arhistoryandart.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
ARTH 101 – Art History I: Pyramids to Pagodas	3	ARTH 102 – Art History II: Michelangelo to Maya Lin	3
PSCL 101 – Introduction to Psychology	3	Choose one: <ul style="list-style-type: none"> • Global & Cultural Diversity or Natural & Mathematical Sciences course • no course 	0-4
art studio (ARTS) courses as arranged	6	art studio (ARTS) courses as arranged	6-9
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	16	Total Hours	15-16

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Art History

Schedule development instructions:

1. It is important for prospective art history majors to take ARTH 101 and 102 as soon as possible. They are both required for the ARTH major and provide exposure to important ways of studying art, including study of art works seen in person at the Cleveland Museum of Art.
2. While all 200- and 300-level ARTH courses are open without prerequisites, most are taught at an advanced level and students are encouraged start with 100- and 200-level courses.
3. Relevant courses in the classics, history, or modern languages departments provide helpful background to various upper-level art history courses.
4. There is no language requirement for the major in art history, but students are encouraged to complete two years of foreign language study.
5. Students do not earn credit for Art History 101 or 102 through the AP Art History exam. Art history majors are required to take ARTH 101 and 102 at CWRU because, at all levels of study (100-, 200-, and 300-level courses), the department teaches an object-focused approach, teaching from and assigning essays and research papers about works of art seen in person in the Cleveland Museum of Art. It is best to start working this way as a student in the introductory courses.

For more information about art history, visit bulletin.case.edu/collegeofartsandsciences/arhistoryandart.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
ARTH 101 – Art History I: Pyramids to Pagodas	3	ARTH 102 – Art History II: Michelangelo to Maya Lin	3
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • 200- or 300-level ARTH course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • ARTS course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	15-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Astronomy (BA and BS)

Schedule development instructions:

1. Students with credit for PHYS 121 should proceed to PHYS 122 (assuming prerequisites are met).
2. ASTR 201 and 202 do not satisfy requirements for the astronomy major or minor.
3. The first-year MATH and PHYS course requirements are the same for both the BA and BS degrees in astronomy.
4. ENGR 131 is the preferred programming course for astronomy majors. However, students with credit for EECS 132 or who are considering a major or minor that requires EECS 132 and earn credit for this course may substitute it for the ENGR 131 requirement upon declaring the major.
5. Students interested in pursuing the astronomy major who do not have credit for calculus or physics should make sure to register for MATH 121 and PHYS 121 in the fall semester.
6. Students who place into MATH 120 via the math diagnostic should take ENGR 131 in the fall and PHYS 121 in the spring semester.
7. Students who place into MATH 120 via the math diagnostic will be behind the normal math and physics sequence for an astronomy major. While it is possible to catch up in the second year, students would be well advised to catch up by taking summer courses. Students in this situation should contact the academic representative for astronomy, Professor Earle Luck (rel2@case.edu), upon arriving in the fall to further discuss the major.
8. ASTR 151 is highly recommended, but not required for the major.

For more information about astronomy, visit bulletin.case.edu/collegeofartsandsciences/astronomy.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence based on math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	4
PHYS 121 – General Physics I – Mechanics	3-4	PHYS 122 – General Physics II – Electricity & Magnetism	4
Choose one: <ul style="list-style-type: none"> • ENGR 131 • Arts & Humanities, Global & Cultural Diversity, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, or Social Sciences course • ENGR 131 • open elective 	3-4
PHED activity course(s) or varsity sport, if available	0	ASTR 151 – Doing Astronomy	1
		PHED activity course(s) or varsity sport	0
Total Hours	13-16	Total Hours	15-16

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Biochemistry (BA and BS)

Schedule development instructions:

1. Students pursuing the BA in biochemistry need to earn credit for MATH 125 and 126 only, which is satisfied if credit for MATH 121 and 122 has been earned at CWRU or through AP, IB, or transfer credit. Students pursuing the BS will need to earn credit for MATH 121, 122, 223, and 224.
2. Biology and chemistry requirements are the same for the BA and BS. CHEM 105-106 is the recommended sequence, but CHEM 111 and ENGR 145 will be accepted in place of CHEM 105 and ENGR 145 will be accepted in place of CHEM 106 for students who complete these courses as part of the requirements for another major they are considering.
3. Students with credit for CHEM 105 or CHEM 111 may enroll in CHEM 106 in the fall semester.
4. University Seminar may be postponed until the second year, but two University Seminars must be completed by the end of the second year.
5. CHEM 113 can be taken in either the fall or spring. However, students who have a somewhat limited exposure to chemistry should defer enrollment in CHEM 113 until the spring semester.

For more information about biochemistry, visit bulletin.case.edu/schoolofmedicine/biochemistry.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence (BS) or 120/125/126 sequence (BA) based on math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	4
Choose one: <ul style="list-style-type: none"> • CHEM 105 – Principles of Chemistry I • CHEM 111 – Principles of Chemistry for Engineers 	3-4	Choose one: <ul style="list-style-type: none"> • CHEM 106 – Principles of Chemistry II • ENGR 145 – Chemistry of Materials 	3-4
BIOL 214 – Genes, Evolution, and Ecology BIOL 214L – Genes, Evolution, and Ecology Lab	3 1	BIOL 215 – Cells and Proteins BIOL 215L – Cells and Proteins Lab	3 1
PHED activity course(s) or varsity sport, if available	0	CHEM 113 – Principles of Chemistry Laboratory	2
		PHED activity course(s) or varsity sport	0
Total Hours	14-16	Total Hours	16-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Biology (BA and BS)

Schedule development instructions:

1. The requirements for the BA and BS in biology are the same for the first year, so students do not need to make choices about their coursework that reflect their intended degree in the first semester.
2. MATH 125-126 is the recommended calculus sequence for both the BA and BS in biology, but students considering the BS in systems biology or other BS degrees should opt for MATH 121 and 122 rather than MATH 125 and 126.
3. Students considering the BS in systems biology or other Bachelor of Science degrees should opt for MATH 121/122/223/224 sequence rather than MATH 125/126.
4. The MATH 125-126 requirement is satisfied if credit for MATH 121 and 122 has been earned either through coursework taken at CWRU or AP, IB, or transfer credit.
5. Students who have credit for MATH 121 and 122 may select a general education course to take in place of calculus.
6. Students do not earn credit for BIOL 214/214L, 215/215L, or 216/216L through the AP or IB biology exam.
7. Students with AP, IB, or transfer credit for CHEM 111 may enroll in CHEM 106 in the fall semester.

For more information about all biology majors, visit bulletin.case.edu/collegeofartsandsciences/biology. Students interested in a functional and/or mathematical approach to the study of biological systems should explore the systems biology degree.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/125/126 sequence based on math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	4
CHEM 105 – Principles of Chemistry I	3	CHEM 106 – Principles of Chemistry II CHEM 113 – Principles of Chemistry Laboratory	3 2
BIOL 214 – Genes, Evolution, and Ecology BIOL 214L – Genes, Evolution, and Ecology Lab	3 1	BIOL 215 – Cells and Proteins BIOL 215L – Cells and Proteins Lab	3 1
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-15	Total Hours	16

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Chemical Biology

Schedule development instructions:

1. Students pursuing the chemical biology major need to earn credit for MATH 125 and 126 only, which is satisfied if credit for MATH 121 and 122 has been earned at CWRU or through AP, IB, or transfer credit.
2. CHEM 105-106 is the recommended chemistry sequence, but CHEM 111 and ENGR 145 will be accepted in place of CHEM 105 and 106 for students who complete these courses as part of the requirements for another major they are considering.
3. Students with AP, IB, or transfer credit for CHEM 111 should enroll in CHEM 106 in the fall semester.
4. Students do not earn credit for BIOL 214/214L, 215/215L, or 216/216L through the AP or IB biology exam.

For more information about chemical biology, visit bulletin.case.edu/collegeofartsandsciences/chemistry.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/125/126 sequence based on math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	4
CHEM 105 – Principles of Chemistry I	3	CHEM 106 – Principles of Chemistry II	3
CHEM 113 – Principles of Chemistry Lab	2	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, or Social Sciences course • open elective 	3-4
BIOL 214 – Genes, Evolution, and Ecology BIOL 214L – Genes, Evolution, and Ecology Lab	3 1	BIOL 215 – Cells and Proteins BIOL 215L – Cells and Proteins Lab	3 1
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	16-17	Total Hours	17-18

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Chemistry (BA and BS)

Schedule development instructions:

1. Students pursuing the BA in chemistry need to earn credit for MATH 125 and 126 only, which is satisfied if credit for MATH 121 and 122 has been earned through AP, IB, or transfer credit. The same applies to students who complete MATH 121 and 122 at CWRU.
2. Students who have earned credit for CHEM 111 through an AP or IB exam should proceed to CHEM 106 in the fall semester.

For more information about chemistry, visit bulletin.case.edu/collegeofartsandsciences/chemistry.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence (BS) or 120/125/126 sequence (BA) based on math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	4
CHEM 105 – Principles of Chemistry I	3	CHEM 106 – Principles of Chemistry II	3
CHEM 113 – Principles of Chemistry Laboratory (It is preferred that students take this in the fall.)	2	Choose one: <ul style="list-style-type: none"> • CHEM 113 – Principles of Chemistry Laboratory (if not taken in the fall semester) • Arts & Humanities, Global & Cultural Diversity, or Social Sciences course • open elective 	2-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • PHYS 121 – General Physics I – Mechanics (BS) • Arts & Humanities, Global & Cultural Diversity, or Social Sciences course • open elective (BA) 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	15-17	Total Hours	15-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Classics

Schedule development instructions:

1. In general, prospective classics majors should take CLSC 231 – Greek Civilization and CLSC 232 – Roman Civilization and start GREK 101 and/or LATN 101 as soon as possible. However, students could also take CLSC 316 – Greek Tragedy, or CLSC 304 – Ancient Rome, or CLSC 337 – Ancient Medicine, or, if interested in classical reception, CLSC 220 – Art and Literature in the Classical Tradition I.
2. It is recommended that students take CLSC 231 – Greek Civilization before taking CLSC 232 – Roman Civilization or any other CLSC course, although not required.
3. For the purposes of planning, students should note that: CLSC 231 – Greek Civilization and LATN 101 and GREK 102 are only taught in the fall, while GREK 101, LATN 102, and CLSC 232 – Roman Civilization are only taught in the spring. Also note that students who have not had Greek or Latin must take GREK 101 or LATN 101 before being able to go further.
4. Students who have had two or more years of Latin (or possibly Greek) in high school should proceed to LATN 201 – Cicero and Caesar or GREK 370 – Greek Prose Composition.
5. Students who have credit for LATN 202 through AP Latin may enroll in LATN 380 – Ovid. Those with a similar demonstrable experience in Greek may enroll in GREK 370 – Greek Prose Composition.

For more information about classics, visit bulletin.case.edu/collegeofartsandsciences/classics.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
CLSC 231 – Greek Civilization	3	CLSC 232 – Roman Civilization	3
Latin and/or Greek language courses according to concentration and placement	3-6	Latin and/or Greek language courses according to concentration and placement	3-6
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Science course • open elective 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	16-17	Total Hours	16-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Cognitive Science (BA)

Schedule development instructions:

1. It is recommended that prospective cognitive science majors complete COGS 101 in their first semester. Doing so will help the student be more prepared and perform better in other foundation courses, such as COGS 102 and COGS 202.
2. In addition to COGS 101, interested students may take COGS 201 – Human Cognition in Evolution and Development, COGS 206 – Introduction to Cognitive Linguistics, or COGS 390 – Introduction to Semiotics.
3. Prospective cognitive science majors may also wish to explore related course offerings in philosophy, biology, psychology, or anthropology.

For more information about cognitive science, visit bulletin.case.edu/collegeofartsandsciences/cognitivescience.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
COGS 101 – Introduction to Cognitive Science I	3	COGS 102 – Introduction to Cognitive Neuroscience	3
Choose one: <ul style="list-style-type: none"> • department-approved COGS course • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • department-approved COGS course • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	15-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Communication Sciences – Communication Disorders

Schedule development instructions:

1. Students who have credit (AP, IB, or transfer) for PSCL 101 should enroll in PSCL 282 or STAT 201, or PSCL 230 – Child Psychology.
2. Students interested in health communication should consider taking COSI 101 – Introduction to Health Communication.
3. Other COSI courses appropriate for interested first-year students include COSI 200 – Interpersonal Communication, COSI 211 – Phonetics and Phonology, or COSI 220 – Introduction to American Sign Language I.
4. Students who wish to be admitted into graduate speech and language pathology programs should be aware of the American Speech Language Hearing Association's pre-professional requirements. Some of these requirements can also be used to satisfy general education breadth requirements and can be taken as early as the first semester. Examples are BIOL114, PHYS 115, CHEM 105, and SOCI 113.
5. Communication sciences majors who plan to go to graduate school in speech and language pathology and/or are thinking about applying to the COSI Integrated Graduate Studies program, should take COSI 109 as soon as possible.

For more information about communication sciences, visit bulletin.case.edu/collegeofartsandsciences/psychology.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
COSI 109 – Introduction to Communication Disorders	3	COSI 220 – Introduction to American Sign Language	3
PSCL 101 – Introduction to Psychology	3	COSI 260 – Multicultural Aspects of Human Communication	3
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • PSCL 282 – Quantitative Methods in Psychology • STAT 201 – Basic Statistics for the Social and Life Sciences 	3
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	15-16

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Computer Science (BA)

For information about the BS in computer science see Page 70.

Schedule development instructions:

1. MATH 125-126 is the recommended calculus sequence for the BA in computer science, but students considering the BS in computer science or other bachelor of science degrees should opt for MATH 121 and 122 rather than MATH 125 and 126.
2. The MATH 125-126 requirement is satisfied if credit for MATH 121 and 122 has been earned either through coursework taken at CWRU or AP, IB, or transfer credit.
3. Students with credit for MATH 121 should proceed to MATH 122 or MATH 126.
4. Students with credit for EECS 132 may choose to take a higher-level EECS course (e.g. EECS 233 or 281).

For more information about computer science, visit bulletin.case.edu/schoolofengineering/elecengcompsci.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
EECS 132 – Introduction to Programming in Java	3	Choose one: <ul style="list-style-type: none"> • EECS 233 – Intro to Data Structures • EECS 281 – Logic Design and Computer Organization • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
MATH course in the 120/125/126 sequence based on the math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	15-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Dance

Schedule development instructions:

1. Students intending to major in dance should communicate with Professor Karen Potter to determine the appropriate level of placement for DANC 103/104/203. Once determined, students should submit a permission request to the Schedule Change Request form in the First-Year Registration item on the New Student Checklist.
2. Students should register for DANC 103/104/203 and/or DANC 121 in their first semester or DANC 122 in the spring semester.
3. Students may wish to explore course offerings in philosophy, art studio, art history, music, or theater.
4. Students are encouraged to audition for Mather Dance Collective (MaDaCol). It is a fun, pressure-relieving, Sunday night activity that culminates in a performance at the end of the semester. Students must commit to the weekly rehearsals, and a week-long evening commitment during the MaDaCol performance week. Contact Professor Potter for more information.
5. DANC 121/122 and/or DANC 260/360 and 261/361 can be taken in the second year depending on demands of a second major and/or instead of one Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course.
6. Students may participate in either a mainstage production or Mather Dance Collective for the DANC 386 course.

For more information about dance, visit bulletin.case.edu/collegeofartsandsciences/dance.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
One of the following (determined by placement): <ul style="list-style-type: none"> • DANC 103 – First-Year Modern Dance Techniques I • DANC 104 – First-Year Modern Dance Techniques II • DANC 203 – Second-Year Modern Dance Techniques I 	3	One of the following (determined by placement): <ul style="list-style-type: none"> • DANC 104 – First-Year Modern Dance Techniques II • DANC 204 – Second-Year Modern Dance Techniques II 	3
DANC 121 – Dance in Culture: Ethnic Forms	3	DANC 122 – Dance in Culture: Theatrical Forms	3
One of the following (determined by placement): <ul style="list-style-type: none"> • DANC 260 – Second-Year Ballet Technique II • DANC 360 – Ballet Technique for Modern Dance Students I 	1-3	One of the following (determined by placement): <ul style="list-style-type: none"> • DANC 261 – Second-Year Ballet Technique II • DANC 361 – Ballet Technique for Modern Dance Students II 	1-3
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4
DANC 385 – Production Practicum	0-1	DANC 386	0
Total Hours	14-17	Total Hours	15-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Economics

Schedule development instructions:

1. Students planning to major in economics and who have credit for ECON 102 and 103 should take ECON 308 or 309. Students who are not planning to major in economics but have credit for ECON 102 and 103 should take ECON 346 – Economic Perspectives.
2. Students with no calculus credit should take MATH 121 or 125 in the first semester. Students who place in MATH 120 should take MATH 120 in the fall and MATH 121 or 125 in the spring semester.
3. Students with credit for MATH 121 should take MATH 122 or 126 in the fall semester.
4. The MATH 125/126 requirement is satisfied if credit for MATH 121/122 has been earned, either through CWRU or AP/IB/transfer credit.
5. Students with credit for MATH 125/126 who would like to take a quantitative course may take OPRE 207, STAT 243, or STAT 312. STAT 201 credit does not satisfy the OPRE 207 requirement for the ECON major.
6. Economics majors must complete Math 125 – Math and Calculus Applications for Life, Managerial, and Social Sci I. Two semesters of calculus (Math 125/126) are recommended. Students who receive AP credit for Math 121 – Calculus for Science and Engineering I may take Math 126. Math 121/122 is recommended for students with a strong passion for economics (and potential graduate studies in the field) and/or for any students who might be interested in taking additional math courses beyond Calculus II.

For more information about economics, visit bulletin.case.edu/weatherheadschoolormanagement/undergradprograms. Further information about majors in the field of business can be found in the Weatherhead School of Management section of this guide.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
Choose one: <ul style="list-style-type: none"> • ECON 102 – Principles of Microeconomics • ECON 103 – Principles of Macroeconomics 	3	Choose one: <ul style="list-style-type: none"> • ECON 103 – Principles of Macroeconomics • ECON 102 – Principles of Microeconomics 	3
MATH course in the 120/125/126 sequence based on math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	15-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

English

Schedule development instructions:

1. Students interested in pursuing a major in English can take any 200-level ENGL course of interest in the first semester and ENGL 300 – English Literature to 1800 in the second semester.
2. Students who are interested in qualifying for Honors in English might want to take a language course (required for the Honors track).
3. Students placed into FSAE 100 – Academic English should defer a 200-level English course until the second semester.

For more information about English, visit bulletin.case.edu/collegeofartsandsciences/english.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
200-level ENGL course	3	200-level or 300-level ENGL course	3
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	14-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Geological Sciences (BA and BS) or Environmental Geology (BA)

Schedule development instructions:

1. The first-year recommended curriculum is identical for the BA in geological sciences and the BA in environmental geology.
2. The EEPS courses are identical for the BA and BS. The BS requires MATH 121-122 and PHYS 121-122, while the BA requires MATH 125-126 and PHYS 115-116, though MATH 121-122 and PHYS 121-122 will satisfy this requirement.
3. The MATH 125-126 requirement is satisfied if credit for MATH 121-122 has been earned, either through CWRU or AP/IB/transfer credit.
4. Students who have credit for MATH 121-122 (or 125-126) may begin work on the appropriate PHYS sequence.
5. First-Year students interested in the geological sciences or environmental geology major may take EEPS 110 – Physical Geology and EEPS 119 – Geology Laboratory.
6. Students not completely sure about either major are encouraged to select EEPS 110 – Physical Geology and EEPS 119 – Geology Laboratory in the fall semester to test their interest in the major.
7. CHEM 113 may be taken either in the fall or spring semester. However, students who have a somewhat limited exposure to chemistry should defer enrollment in CHEM 113 until the spring semester.
8. Students pursuing the BS in geological sciences may take ENGR 131 at any point prior to graduation. However, students are encouraged to enroll in the course during the first or second year.
9. Students interested in pursuing either the geological sciences or environmental geology major should meet with the academic representative before registering for fall semester of the second year, as many upper-level EEPS courses are offered every other year.

For more information about geological sciences and environmental geology, visit bulletin.case.edu/collegeofartsandsciences/geologicalsciences.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence (BS) or the 120/125/126 sequence (BA) based on math diagnostic, AP/IB scores, and/or previous college credit	3-4	Next course in MATH sequence	4
CHEM 105 – Principles of Chemistry I	3	CHEM 106 – Principles of Chemistry II	3
Choose one: <ul style="list-style-type: none"> • CHEM 113 – Principles of Chemistry Lab • ENGR 131 – Elementary Computer Programming (BS only) • Arts & Humanities, Global & Cultural Diversity, or Social Sciences course • open elective 	2-4	Choose one: <ul style="list-style-type: none"> • CHEM 113 – Principles of Chemistry • Arts/Humanities, Global & Cultural Diversity, or Social Sciences course • open elective 	2-4
Choose one: <ul style="list-style-type: none"> • EEPS 110 – Physical Geology and EEPS 119 – Physical Geology Laboratory • Arts & Humanities, Global & Cultural Diversity, or Social Sciences course 	3-4	Choose one: <ul style="list-style-type: none"> • ENGR 131 – Elementary Computer Programming (BS only) • open elective Arts & Humanities, Global & Cultural Diversity, or Social Sciences course • open elective 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	15-17	Total Hours	15-18

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

History

Schedule development instructions:

1. International students interested in learning more about American history should consider taking HSTY 110 – Introduction to U.S. History for International Students in the fall semester (offered fall semester only).
2. Interested students should feel comfortable taking any HSTY course as a first-year student, with the exception of HSTY 398 (capstone).

For more information about history, visit bulletin.case.edu/collegeofartsandsciences/history.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
Any 100- or 200-level HSTY course in U.S., European, African, China, or South Asian history	3	Any 100- or 200-level HSTY course in U.S., European, African, China, or South Asian history	3
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • HSTY course of interest • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	15-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

History and Philosophy of Science

Schedule development instructions:

1. Students may choose any HSTY course of interest in the first semester, though a HSTY course with substantive science content is preferred. Students may also elect to take an additional PHIL course instead, if preferred.
2. Though not required for the major, students may wish to take courses to strengthen their background in the sciences.

For more information about history and philosophy of science, visit bulletin.case.edu/collegeofartsandsciences/historyandphilosophyofscienceprogram.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
PHIL 101 – Introduction to Philosophy	3	Choose one: <ul style="list-style-type: none"> • HSTY 151 – Technology in European Civilization • HSTY 202 – Science in Western Thought II • HSTY/PHIL 203 – Natural Philosophy 	3
HSTY course of interest	3	department-approved elective	3
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	15-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

International Studies

Schedule development instructions:

1. Students may take the courses listed in the second row in any order.
2. Students should take courses in a language from a region of the world that is of greatest interest to them. Students beginning a new language should keep in mind that the first course in some languages is offered only in the fall.
3. International Studies requires "competency in a non-native language." This usually requires students to complete courses through the 202-level.

For more information about international studies, visit bulletin.case.edu/collegeofartsandsciences/internationalstudiesprogram.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
Choose one: <ul style="list-style-type: none"> • ANTH 102 – Being Human: An Introduction to Social and Cultural Anthropology • ECON 103 – Intro to Macroeconomics • HSTY 113 – Introduction to Modern World History • POSC 172 – Introduction to International Relations 	3	Choose one: <ul style="list-style-type: none"> • ANTH 102 – Being Human: An Introduction to Social and Cultural Anthropology • ECON 103 – Intro to Macroeconomics • HSTY 113 – Introduction to Modern World History • POSC 172 – Introduction to International Relations 	3
Choose one: <ul style="list-style-type: none"> • second course from list in row #2 • open elective • foreign language course • no course 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	0-4	Choose one: <ul style="list-style-type: none"> • second course from list in row #2 • open elective • foreign language course 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	15-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Mathematics (BA)

Schedule development instructions:

1. MATH 150 is offered in spring semester and should be taken by all declared and prospective majors. It provides an overview of the study of mathematics (i.e. what it is like to be a math major).
2. Students with credit for MATH 122 and advanced math backgrounds (score of 5 the AP Calculus BC exam or equivalent) may consider taking MATH 305 or 307.
3. The requirements for the BA and BS are the same in the first year, with the exception of the ENGR 131 requirement. The BS requires a science core plus a science sequence; the BA does not. Thus, the BA has more flexibility in elective courses. The BS in applied mathematics requires an additional professional core in a non-mathematics area to promote scientific breadth.
4. Students interested in completing the BA may take ENGR 131 or MATH 330 (after completing the necessary prerequisite). Students interested in completing the BS will need to take MATH 330 and should not take ENGR 131.

For more information about mathematics (BA), visit bulletin.case.edu/collegeofartsandsciences/mathematics.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence based on math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • MATH 150 – Math from a Mathematician's Perspective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • ENGR 131 – Elementary Computer Programming • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • ENGR 131 – Elementary Computer Programming • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	16-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Mathematics (BS) and Applied Mathematics

Schedule development instructions:

1. Students with credit for MATH 122 and advanced math backgrounds (score of 5 on the AP Calculus BC exam or equivalent) may consider taking MATH 305 or 307.
2. The requirements for the BA and BS are the same in the first year, with the exception of the ENGR 131 requirement. The BS requires a science core plus a science sequence; the BA does not. Thus, the BA has more flexibility in elective courses. The BS in applied mathematics requires an additional professional core in a non-mathematics area to promote scientific breadth.
3. Students interested in completing the BA may take ENGR 131 or MATH 330 (after completing the necessary prerequisite). Students interested in completing the BS will need to take MATH 330 and should not take ENGR 131.

For more information about mathematics (BS) and applied mathematics, visit bulletin.case.edu/collegeofartsandsciences/mathematics.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence based on math diagnostic, AP/IB scores, and/or previous college credit	3-4	Next course in MATH sequence	4
Choose one science course: <ul style="list-style-type: none"> • ASTR 201 – The Sun and its Planets • CHEM 105 – Principles of Chemistry I • CHEM 111 – Principles of Chemistry for Engineers • EEPS 110 – Physical Geology 	3-4	Second course in the science sequence: <ul style="list-style-type: none"> • ASTR 202 – Stars, Galaxies, and the Universe • CHEM 106 – Principles of Chemistry II • ENGR 145 – Chemistry of Materials • EEPS 115 – Introduction to Oceanography or EEPS 210 – Historical Geology/Paleontology 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, or Social Sciences course • open elective • no course 	0-4	PHYS 121 – General Physics I – Mechanics	4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	17-19

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Modern Languages and Literatures

Majors in Chinese, French, French and Francophone Studies, German, German Studies, Japanese Studies, and Spanish are offered.

Schedule development instructions:

1. Students should begin their study of language based on placement exam results (if available), AB/IB exam results and credit, or the placement recommendations.
2. Students will have the opportunity to review their placement with the faculty member teaching the course during the drop/add period (first two weeks of the semester).
3. Students should feel comfortable studying more than one language at a time if interested.
4. Linguistics courses offered in cognitive science, in addition to the ones offered by modern languages and literatures (listed under LING), may be of interest to students majoring in a language.
5. Students interested in studying abroad or pursuing a double major should meet with the academic representative of the language they intend to study during their first semester to begin planning future coursework.
6. Students without AP/IB credit should take the foreign language placement exam prior to course registration. Students with credit or placement through the 202-level may take a 300-level language course. Students with no prior language experience may begin at the 101-level.

For more information about modern languages and literatures, visit bulletin.case.edu/collegeofartsandsciences/modernlanguagesandliteratures.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
201-level language course (i.e. FRCH 201, GRMN 201, JAPN 201, SPAN 201)	4	202-level language course (i.e. FRCH 202, GRMN 202, JAPN 202, SPAN 202)	4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	14-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Music

Most incoming music and music education majors have already been accepted to the major based, in part, on video audition materials submitted as part of the arts supplement that they completed along with their application to CWRU. Potential music or music education majors who have not yet been accepted to the major should contact Eric Charnofsky, Coordinator of Undergraduate Enrollment in Music, at 216.368.0624 or eric.charnofsky@case.edu to schedule an audition.

All new music and music education majors will take a placement test in music theory during new student orientation. The first music theory course assignment will be determined from the score on this test. Students are encouraged to prepare for the test using the resources listed at music.case.edu/incoming-students/music-theory-placement-exam.

The music department also offers a minor (15 credit-hours) in music, which students can pursue without an audition.

All CWRU students are welcome to participate in music ensembles. There are many opportunities, from large instrumental and vocal groups, to smaller chamber groups. A full list of groups can be found at music.case.edu/ensembles. Most Department of Music ensembles require auditions, which will be held during the first week of classes. Interested students should contact the appropriate ensemble director via email or attend the first class meeting.

Schedule development instructions:

1. Students will be registered for applied lessons (MUAP 121) during new student orientation after instructor assignments have been made in consultation with the Cleveland Institute of Music faculty.
2. Most ensembles in the department of music require permission. To gain entry into any ensemble the student must audition for placement. Once audition results are posted, each student will be cleared to register for the appropriate course.
3. Students may become eligible for eurhythmics (MUDE 101) based on the results of the music theory placement test given during orientation. MUDE 101 and 102 satisfy the College of Arts and Sciences physical education requirement.
4. Students planning to pursue the BA music major must take a MUTH, MUAP, and MUEN course in their first semester. Students pursuing the BS music education major will also take an introductory MUED course their first semester. Students pursuing a double-major or dual-degree should use slots four and five below for other required courses.

For more information about music, [visit bulletin.case.edu/collegeofartsandsciences/music](http://bulletin.case.edu/collegeofartsandsciences/music).

Courses marked with an asterisk () require placement tests/permits. Your music dept. advisor will place you in these courses.*

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MUTH 107 – Music Theory I* or MUTH 003 – Pre-Conservatory Theory*	4	MUTH 108 – Music Theory II*	4
MUAP 121 – Principal Performance Area I* (applied lessons with recital component)	2	MUAP 122 - Principal Performance Area II* (applied lessons with recital component)	2
Choose one: <ul style="list-style-type: none"> • Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
MUEN – Primary Ensemble*	0-1	MUEN – Primary Ensemble*	0-1
MUDE 101 – Eurhythmics I*	0	MUDE 102 – Eurhythmics II*	0
		MUAP 10: Progress Jury Examination	0
Total Hours	16-19	Total Hours	15-18

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Music Education

Most incoming music and music education majors have already been accepted to the major based, in part, on video audition materials submitted as part of the arts supplement that they completed along with their application to CWRU. Potential music education majors who have not yet been accepted to the major should contact Dr. Matthew Garrett, Coordinator of Undergraduate Studies in Music Education, at 216.368.2496 or chorus@case.edu to schedule an audition and interview.

All new music and music education majors will take a placement test in music theory during new student orientation. The first music theory course assignment will be determined from the score on this test. Students are encouraged to prepare for the test using the resources listed at music.case.edu/incoming-students/music-theory-placement-exam.

The music department also offers a minor in music (15 credit-hours), which students can pursue without an audition.

All CWRU students are welcome to participate in music ensembles. There are many opportunities, from large instrumental and vocal groups, to smaller chamber groups. A full list of groups can be found at music.case.edu/ensembles. Most Department of Music ensembles require auditions, which will be held during the first week of classes. Interested students should contact the appropriate ensemble director via email or attend the first class meeting.

Schedule development instructions:

1. Students will be registered for applied lessons (MUAP 121) during new student orientation after instructor assignments have been made in consultation with the Cleveland Institute of Music faculty.
2. Most ensembles in the department of music require permission. To gain entry into any ensemble the student must audition for placement. Once the audition results are posted, each student will be cleared to register for the appropriate course.
3. All music education majors are required to register for a primary ensemble credit every semester (i.e. enroll in the course for one credit-hour). Music majors will be assigned an audition time on the first day of classes per their performance medium.
4. Students may become eligible for eurhythmics (MUDE 101) based on the results of the music theory placement test given during orientation. MUDE 101 and 102 satisfy the College of Arts and Sciences physical education requirement.
5. Students planning to pursue the BA music major must take a MUTH, MUAP, and MUEN course in their first semester. Students pursuing the BS music education major will also take an introductory MUED course their first semester. Students pursuing a double-major or dual-degree should use slots four and five below for other required courses.
6. Students with questions about the Bachelor of Science in music education should contact Dr. Matthew Garrett, Coordinator of Undergraduate Studies in Music Education, at 216.368.2496 or chorus@case.edu.

For more information about music education, visit bulletin.case.edu/collegeofartsandsciences/music.

Courses marked with an asterisk () require placement tests/permits. Your music dept. advisor will place you into these courses.*

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MUTH 107 – Music Theory I* or MUTH 003 – Pre-Conservatory Theory*	4	MUTH 108 – Music Theory II*	4
MUAP 121 – Principal Performance Area I* (applied lessons with recital component)	2	MUAP 122 – Principal Performance Area II* (applied lessons with recital component)	2
Choose one: <ul style="list-style-type: none"> • Natural & Mathematical Sciences • open elective 	3-4	PSCL 101 - Psychology (prerequisite for future classes)	3
MUEN – Primary Ensemble*	1	MUEN – Primary Ensemble*	1
MUDE 101 – Eurhythmics I*	0	MUDE 102 – Eurhythmics II*	0
MUED 200 – Basic Skills & Pedagogy	1	MUAP 10: Progress Jury Examination	0
		MUED 320 – Technology Assisted Music Teaching	3
Total Hours	15-16	Total Hours	16

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Nutrition (BA and BS)

Schedule development instructions:

1. Students pursuing the BS in nutrition must take STAT 201 or its equivalent.
2. NTRN 201 may be taken in the fall or spring but fall is preferred. Students should explore the possibility of taking a nutrition elective in the spring.
3. CHEM 113 is only required for the BS and may be taken either in the fall or spring semester. However, students who have a somewhat limited exposure to chemistry should defer enrollment in CHEM 113 until the spring semester.

For more information about nutrition, visit bulletin.case.edu/schoolofmedicine/nutrition.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
CHEM 105 – Principles of Chemistry I	3	CHEM 106 – Principles of Chemistry II	3
Choose one: <ul style="list-style-type: none"> • NTRN 201 – Nutrition (preferred) • CHEM 113 – Principles of Chemistry Lab 	2-3	Choose one: <ul style="list-style-type: none"> • CHEM 113 – Principles of Chemistry Lab (preferred) • NTRN 201 – Nutrition (if not taken in the fall) 	2-3
BIOL 214 – Genes, Evolution, and Ecology BIOL 214L – Genes, Evolution, and Ecology Lab	3 1	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one (optional): <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Science course • open elective 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	14-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Nutritional Biochemistry and Metabolism (BA and BS)

Schedule development instructions:

1. The first year of coursework for the BA and BS in nutritional biochemistry and metabolism is identical, except for the math requirements. Differences in the second year include, math, physics, and statistics.
2. Students pursuing the BA need to earn credit for MATH 125 and 126 only, which is satisfied if credit for MATH 121 and 122 has been earned either through CWRU, AP, IB, or transfer credit.
3. Students pursuing a major (BA or BS) in nutritional biochemistry and metabolism should focus on completing CHEM 105, 106, and 113, as well as BIOL 214 and BIOL 215 in the first year.
4. NTRN 201 may be taken in the fall or spring semester. Students should explore the possibility of taking a nutrition elective in the spring.
5. CHEM 113 may be taken either in the fall or spring semester. However, students who have a somewhat limited exposure to chemistry should defer enrollment in CHEM 113 until the spring semester.
6. BIOL 216L is the only required lab course.

For more information about nutritional biochemistry and metabolism, visit bulletin.case.edu/schoolofmedicine/nutrition.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 (BS) or 120/125/126 (BA) sequence based on math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	3-4
CHEM 105 – Principles of Chemistry I	3	CHEM 106 – Principles of Chemistry II	3
Choose one: <ul style="list-style-type: none"> • NTRN 201 – Nutrition (preferred) • CHEM 113 – Principles of Chemistry Lab 	2-3	Choose one: <ul style="list-style-type: none"> • CHEM 113 – Principles of Chemistry Lab (preferred) • NTRN 201 – Nutrition (if not taken in the fall) 	2-3
BIOL 214 – Genes, Evolution, and Ecology BIOL 214L – Genes, Evolution, and Ecology Lab	3 1	BIOL 215 – Cells and Proteins	3
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	16-18	Total Hours	16-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Origins Sciences

Schedule development instructions:

1. Origins sciences majors create their own diverse plans of study in consultation with departmental advisors, faculty, and researchers. For more information contact Patricia Princehouse at pmp7@case.edu.
2. Students who have credit for MATH 121 and 122 may add PHYS 121/122 or PHYS 123/124 to their schedules instead of a general education elective of their choice.
3. Students with AP, IB, or transfer credit for CHEM 111 may enroll in CHEM 106 in the fall semester.
4. Students considering the BS in systems biology or other Bachelor of Science degrees should opt for the MATH 121/122/223/224 sequence rather than MATH 125/126.

For more information about origins science, visit origins.case.edu/major/.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
Appropriate MATH course in the 121/122 or 125/126 sequence based on math diagnostic, AP/IB scores, and/or previous college credit	3-4	Next course in MATH sequence	4
CHEM 105 – Principles of Chemistry I	3	CHEM 106 – Principles of Chemistry II	3
BIOL 214 – Genes, Evolution, and Ecology	3	BIOL 225 – Evolution	3
ORIG 101 – Origins Prologue: Life, the Universe, and Everything	1	ORIG 201 – Origins: From the Beginning	3
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-15	Total Hours	16

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Philosophy

Schedule development instructions:

1. PHIL 101 is a prerequisite for most upper-level PHIL courses and provides an introduction to basic themes and some important figures in the history of philosophy (primarily Western). Students in PHIL 101 gain confidence reading philosophical material and writing argumentative or interpretive papers about this material.
2. PHIL 201 is an introduction to logic. It is more like a math course than some other philosophy courses, in that it emphasizes the ability to symbolize statements and arguments.
3. Both PHIL 101 and 201 are required for the philosophy major.
4. Students may benefit from reviewing course offerings in other areas depending on the nature of their interest in philosophy. Students with an interest in the sciences and philosophy of science could also take a course in the history of science and technology or in cognitive science. The religious studies department offers cross-listed courses in nonwestern philosophy in addition to those available through the philosophy department. World history may be of interest.
5. The study of philosophy is good preparation for a career in medicine and will deepen the student's understanding of science and ethics. Basic sociology and anthropology courses are helpful for those interested in law or medicine.
6. Students interested in pursuing graduate school in philosophy or another humanities discipline are strongly encouraged to begin or maintain study in a foreign language.
7. Students planning to pursue a philosophy major are advised to leave sufficient time in their schedule for reading and taking notes on difficult texts in their major classes and to take courses that will develop their reading and writing skills, as well as general knowledge of the world and its cultures. Students should make an effort to attend outside talks and events sponsored by the philosophy department.

For more information about philosophy, visit bulletin.case.edu/collegeofartsandsciences/philosophy.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
Choose one: <ul style="list-style-type: none"> • PHIL 101 – Introduction to Philosophy • PHIL 201 – Introduction to Logic 	3	Choose one: <ul style="list-style-type: none"> • PHIL 302 – Modern Philosophy • department-approved PHIL course of interest • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	14-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Physics (BA and BS) and Math and Physics (BS)

Schedule development instructions:

1. Students who have credit for the MATH, CHEM, and/or PHYS courses recommended for the fall semester may enroll in the next course in the sequence or take another course of interest (possibly for a second or alternate major).
2. CHEM 105/106 is the usual chemistry sequence for BA/BS physics majors but, if there is any possibility that a student might pursue a major in engineering, including engineering physics, the student should instead take CHEM 111 / ENGR 145 to fulfill core requirements for the Case School of Engineering.
3. Most physics majors take the ENGR 131 MATLAB-based computer programming course either their first or second semester. However, students who are considering a major or minor in computer science or computer engineering or an engineering physics major with a concentration in computer science or engineering should instead take the JAVA-based EECS 132 course.
4. PHYS 166 - Physics Today and Tomorrow is a one-credit pass/no pass course designed to give first-year students a sense of what physicists actually do in their careers, with introductions to a variety of topics at the frontiers of science. This has a very different purpose from PHYS 121/122/123/124. PHYS 166 might be of interest to any CWRU first-year student. It is not required, but is strongly recommended for students thinking of majoring in physics.
5. Students should not start PHYS 121 unless they have completed a year of high school calculus and/or have credit for MATH 121. SIS does not include this as a prerequisite only because it cannot check high school records. If this leads to a delay in starting physics compared to the suggested schedule, a student can catch up in the second year or even earlier, by taking physics over the summer.
6. Students who are invited to take the enhanced physics courses, PHYS 123/124, should consider accepting the invitation, even if it means forfeiting AP/IB credit for PHYS 121. Note, however, that these enhanced courses are NOT required and are not necessarily better options for all students.
7. BA physics majors must complete an approved two-course non-physics science sequence. This is commonly done with CHEM courses but ASTR, BIOL and EEPS courses are options, too.

For more information about physics, visit bulletin.case.edu/collegeofartsandsciences/physics and <http://www.phys.cwr.edu/undergrad/programs/advice.pdf>.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
PHYS 121 – General Physics I – Mechanics or PHYS 123 – Physics and Frontiers I (invitation only)	4	PHYS 122 – General Physics II – Electricity & Magnetism or PHYS 124 – Physics and Frontiers II (invitation only)	4
MATH course in the 120/121/122/223/224 sequence based on math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	4
Choose one: • CHEM 105 – Principles of Chemistry I • CHEM 111 – Principles of Chemistry for Engineers (BS)	3-4	Choose one: • CHEM 106 – Principles of Chemistry II • ENGR 145 – Chemistry of Materials (BS)	3-4
PHYS 166 – Physics Today and Tomorrow	1	ENGR 131 – Elementary Computer Programming	3
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	15-17	Total Hours	17-18

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Political Science

Schedule development instructions:

- Although the introductory courses—POSC 109, 160, and 172—provide useful foundations for upper-level courses, students are not required to take them before taking 300-level courses. Courses labeled as "Departmental Seminars" fulfill a SAGES requirement and should normally not be taken during the first year. Most courses are appropriate for first-year students in the second semester. See the course description to determine whether or not a course is a Departmental Seminar.

For more information about political science, visit bulletin.case.edu/collegeofartsandsciences/politicalscience.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
Choose one: <ul style="list-style-type: none"> • POSC 109 – The U.S. Political System • POSC 160 – Introduction to Comparative Politics • POSC 172 – Introduction to International Relations • 300-level POSC course of interest (unless designated as a Department Seminar) 	3	Choose one: <ul style="list-style-type: none"> • POSC 109 – The U.S. Political System • POSC 160 – Introduction to Comparative Politics • POSC 172 – Introduction to International Relations • 300-level POSC course of interest (unless designated as a Department Seminar) 	3
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • POSC course of interest • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • POSC course of interest • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	14-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Psychology

Schedule development instructions:

1. Almost all psychology courses require PSCL 101 – General Psychology as a prerequisite and should be taken by students interested in a psychology major.
2. Students with credit for PSCL 101 may want to consider taking PSCL 282 – Quantitative Analysis (or STAT 201), PSCL 230 – Child Psychology, PSCL 315 – Social Psychology, PSCL 321 – Abnormal Psychology, PSCL 352 – Physiological Psychology, or PSCL 357 – Cognitive Psychology in place of that course fall semester.

For more information about psychology, visit bulletin.case.edu/collegeofartsandsciences/psychology.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
PSCL 101 – Introduction to Psychology	3	One PSCL course from: PSCL 102, 230, 315, 352, 321, or other PSCL course of interest	3
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • PSCL 282 – Quantitative Methods in Psychology • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	15-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Religious Studies

Schedule development instructions:

1. The general gateway course for a major or minor in religious studies is RLGN 102 – Introduction to Religious Studies, but students can take any other 100- or 200-level RLGN course of interest. RLGN 102 provides a general overview of the field, but if students prefer some background in a religious tradition first before doing comparative work, they can take a lower-level course focusing on that particular tradition and then take RLGN 102 later.
2. Religious studies majors will complete a nine-hour concentration in one of the following areas: religious texts and traditions, religion and culture, or religion in society. A list of courses assigned to each area of concentration is available from the department.

For more information about sociology, visit bulletin.case.edu/collegeofartsandsciences/sociology.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
Choose one: <ul style="list-style-type: none"> • RLGN 102 – Introduction to the Study of Religion • another RLGN course of interest 	3	RLGN course of interest	3
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • RLGN course of interest • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	14-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Sociology

Schedule development instructions:

1. Interested students should take SOCI 101 – Introduction to Sociology: Human Interaction in the fall or spring semester. However, students may take a 200-level SOCI course before taking SOCI 101.
2. Students with credit for SOCI 101 can select from any 200-level SOCI courses. 300-level SOCI courses should not be taken until the second year.
3. Students interested in sociology may also want to consider courses from other social sciences fields.
4. Sociology majors have the option of pursuing one of four concentrations: crime, law, and justice; health, medicine, and aging; gender, work, and family; and social inequality. Please check the General Bulletin for specific courses assigned to each concentration.

For more information about sociology, visit bulletin.case.edu/collegeofartsandsciences/sociology.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
SOCI 101 – Introduction to Sociology: Human Interaction	3	200-level SOCI course of interest	3
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • PSCL 282 – Quantitative Methods in Psychology or STAT 201 – Basic Statistics for the Social & Life Sciences • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport, if available	0
Total Hours	14-17	Total Hours	14-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Statistics (BA and BS)

Schedule development instructions:

1. BS statistics majors must complete a science sequence from the following options: BIOL 214 and 216; CHEM 105, 106, 113; CHEM 111 and ENGR 145; or PHYS 121 and 122.
2. STAT 201 does not fulfill requirements for the statistics major.
3. Students interested in pursuing the BS in statistics may choose to begin science sequence coursework, referenced in the schedule recommendations above.
4. Students interested in a statistics major should take MATH 121 and ENGR 131 in their first semester.

For more information about statistics, visit bulletin.case.edu/collegeofartsandsciences/mathematics.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
MATH course in the 120/121/122/223/224 sequence based on math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	4
ENGR 131 – Elementary Computer Programming	3	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	16-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Systems Biology

Schedule development instructions:

1. CHEM 113 may be taken either in the fall or spring semesters. However, students who have a somewhat limited exposure to chemistry should defer enrollment in CHEM 113 until the spring semester.
2. Students also considering a BA or BS in biology should take courses in the MATH 121-122 sequence, as they are required for systems biology and can also fulfill requirements for either biology major.
3. Students with AP, IB, or transfer credit for CHEM 111 may enroll in CHEM 106 in the fall semester.

For more information about systems biology, visit bulletin.case.edu/collegeofartsandsciences/biology.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
CHEM 105 – Principles of Chemistry I	3	CHEM 106 – Principles of Chemistry II	3
CHEM 113 – Principles of Chemistry Laboratory	2	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, or Social Sciences course • open elective 	3
MATH course in the 120/121/122/223/224 sequence based on math diagnostic, AP/IB scores, and/or previous college credit	3-4	next course in MATH sequence	4
BIOL 214 – Genes, Evolution, and Ecology	3	BIOL 215 – Cells and Proteins	3
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	15-16	Total Hours	16

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Theater

Schedule development instructions:

1. Students intending to major in theater should prioritize taking THTR 102 in the fall semester.
2. Theater majors will choose one of the following concentrations: acting, design/technical theater, directing, dramatic writing, general theater, or theater and society.
3. Students can register for THTR 185 with department approval upon being cast in a show.
4. Auditions usually occur within the second week of classes (two days of open calls) with callbacks on another day. Please contact the department during the first week of classes or visit theater.case.edu for further details.

For more information on theater, visit bulletin.case.edu/collegeofartsandsciences/theater.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
THTR 102 – Acting I for Majors	3	THTR 103 – Acting II	3
THTR 110 – Introduction to Theater	3	THTR 111 – Introduction to Design	3
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
THTR 185 – Theater Practicum	1	THTR 185 – Theater Practicum	1
Total Hours	14-17	Total Hours	15-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Women's and Gender Studies

Schedule development instructions:

1. WGST courses are cross-listed with a number of disciplines such as anthropology, art history, English, ethnic studies, French, history, Spanish, and sociology. Students interested in women's and gender studies may find courses of interest in those departments as well.
2. WGST 201 – Introduction to Gender Studies is cross-listed as ENGL 270, HSTY 270, PHIL 270, RLGN 270, and SOCI 201.

For more information about women's and gender studies, visit bulletin.case.edu/collegeofartsandsciences/womenandgenderstudiesprogram.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
Choose one: <ul style="list-style-type: none"> • ANTH 102 – Being Human: An Introduction to Social and Cultural Anthropology • SOCI 101 – Introduction to Sociology: Human Interaction 	3	WGST 201 – Introduction to Gender Studies	3
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • major requirement chosen in consultation with dept. advisor • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no course 	0-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	14-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

World Literature

Schedule development instructions:

1. Students who have earned AP, IB, or transfer credit through a 202-level language course, or who receive a 300-level placement on the foreign language placement test, may select a 300-level foreign language literature course.
2. When considering a language to take for the world literature major, students are encouraged to take language courses that match their present and future interest in a specific national literature, especially if the student is interested in any kind of literary genre originally written in that language.
3. Students intending to major in world literature should take WLIT 211 and 212 in sequence (fall and spring).
4. WLIT courses are cross-listed with classics, modern languages, and cognitive science. Students may wish to explore courses in these areas based on their major/minor concentration.
5. If intending to pursue the world literature major, students should consult with the academic representative prior to registering for spring semester to review course options based on their plan of study.

For more information about world literature, visit bulletin.case.edu/collegeofartsandsciences/worldliteratureprogram.

Fall Semester	Credit-hours	Spring Semester	Credit-hours
SAGES First Seminar	4	SAGES University Seminar	3
WLIT 211 – World Literature I	3	Choose one: <ul style="list-style-type: none"> • WLIT 212 – World Literature II • WLIT/ENGL 290 – Masterpieces of Continental Fiction • WLIT/ENGL 291 – Masterpieces of Modern Fiction • WLIT/CLSC 203 – Gods and Heroes in Greek Literature • WLIT/CLSC 204 – Heroes and Hustlers in Latin Literature 	3
Choose one: <ul style="list-style-type: none"> • modern language course through the 202-level • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • modern language course through the 202-level • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective 	3-4
Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no elective 	0-4	Choose one: <ul style="list-style-type: none"> • Arts & Humanities, Global & Cultural Diversity, Natural & Mathematical Sciences, or Social Sciences course • open elective • no elective 	0-4
PHED activity course(s) or varsity sport, if available	0	PHED activity course(s) or varsity sport	0
Total Hours	14-17	Total Hours	14-17

*Students with credit for a course have the option of using that credit as a prerequisite and registering for a higher-level course or forfeiting their credit and repeating the course for a grade at CWRU. Students who choose either option may make changes to their enrollment during the first two weeks of the semester (drop/add period) should they discover that the course in which they originally enrolled is not at the appropriate level. Students may find it more manageable to change to lower-level course after beginning at the higher level.

Ordering, Purchasing, and Obtaining Your College Textbooks

One of the most important tasks you need to accomplish in order to ensure a successful first semester is to secure your textbooks and other assigned readings. Although most professors will not expect you to have completed any reading assignments for the first day of class, it is important that you acquire the required texts for a course during the first week of classes as course lectures and discussions may focus on assigned readings as early as the second meeting of the class. You should have all of your textbooks by the end of the first week of classes.

Considerations when ordering and purchasing books

There are numerous sources from which you may be able to obtain required course readings that provide you the opportunity to compare prices, delivery methods, and refund and resale options. However, no one source for purchasing books will necessarily meet all of your needs and preferences. Issues you will want to consider when it comes time to purchase your books include:

- From where do you want to obtain your textbooks? What are the differences in cost among available options?
- If shipping is involved, how long will it take? Will you have them for the first week of classes?
- Do you want to buy new or used books? Does the condition of the book matter to you?
- What is the availability of the book? Is there a risk the supplier will not have enough copies to meet demand?
- Do you anticipate keeping the book after the class or do you want to sell it? What if you change your mind?
- What is the refund policy for returned books that are not used (e.g., you drop a class the second week of the semester and never use the book)?
- If you decide to rent your books, rather than buy them, does the rental period match your need for the book?
- Are you allowed to write notes in the book or highlight sections of it?
- What media formats are available (e.g., e-book, Kindle, iPad, etc.)?
- Does the distributor have the correct edition of the book?

Case Western Reserve University Bookstore

The CWRU Barnes & Noble Bookstore is located on campus at 11451 Euclid Ave. The bookstore has all the supplies necessary to prepare you for your first semester at CWRU. The CWRU textbook section in the bookstore is located on the second floor. You can also visit the store online at case.bncollege.com. As a Barnes & Noble College Bookstore, you can use B&N gift cards to purchase your textbooks online or in the store. The primary advantage to using the CWRU Bookstore is that no shipping is involved; you can simply pick up your textbooks when you arrive on campus. The bookstore works directly with your professors to make sure they have the correct copies and editions of the books assigned for their classes. Purchasing options at the CWRU Bookstore include:

1. **New textbooks** can be a good investment. Further, you can potentially get money back if you sell your book back to the bookstore at the end of the term.
2. **Used textbooks** can save you up to 25 percent compared to new books. The bookstore has a large selection of used books, but they tend to run out quickly. These books can also be sold back for cash at the end of the term. Plus, buying used books is friendly to the environment.
3. **Digital textbooks** are available in some instances. These books are the same ones you see on the shelves, just in a different format. It's a great option for those who want to lighten the load of their backpacks, save money, or decrease their impact on the environment.
4. **Renting textbooks** can save you over 50 percent compared to new books. If shopping in the store, just look for books with a "Rental" sticker on them. Students can pay for rental books with cash, credit card, Barnes & Noble gift cards, or Case Cash. However, a credit card will need to be on file to ensure you return the textbook. Rented books can be marked up with notes and highlighted. Students must be 18 years of age to rent textbooks.

There are several ways to order books from the CWRU Bookstore online. One option is through SIS. Once you register for your classes through SIS, click the "Order My Books" link found at the bottom of the "My Class Schedule" page when in list view. (Make sure to unblock pop-ups.) This link will take you to the bookstore's website, where you can see the list of books you need for each class. The other option is to go directly to the bookstore's website at case.bncollege.com. Once on the site, it will ask you to make your course list. After you have entered all of your courses, click "View Textbook List." The list will tell you what books are required, recommended or optional for each class. Students may wish to consult with the faculty first before purchasing recommended books. When you are finished selecting which textbooks you would like to buy new, buy used (if available), buy digital (if available), or rent, add your selected items into your shopping cart. Review your items and when you're ready to submit the order, you can choose to have them delivered to you by UPS or choose "in store pick-up" and pick them up at the bookstore when you arrive on campus.

When to buy your textbooks

Many students worry about when they should purchase their textbooks, especially if they are not certain they want to keep all of the courses for which they registered at CWRU. While there is no expectation that students purchase their books prior to the first day of class, you may want to consider doing so if you want to begin reviewing materials or get a jump on your reading before classes start, or to guarantee that you will have the books you need at the beginning of the semester.

If you decide to purchase your textbooks before the semester begins, keep the return/refund policies in mind in case you decide to change a course or your entire schedule during the drop/add period (first two weeks of the semester). If you purchase your books from the CWRU Bookstore, you may return them in their original purchase condition and with a receipt within the first week of classes for a full refund. If you drop a class, you can still get a full refund within 30 day of the start of classes if you return the books in their original purchase condition with a receipt and proof of the course drop.

Bookstore Bucks

What?

Case Western Reserve University and the Barnes & Noble University Bookstore are pleased to offer the Bookstore Bucks program, which allows students to charge textbooks and academic supplies directly to their financial accounts. This program is available to all CWRU undergraduates.

Why?

Having access to textbooks and other necessary course materials early in the semester facilitates academic success. The Bookstore Bucks program is intended to provide students with an easy, streamlined process for obtaining their textbooks and other necessary supplies. In addition, the Bookstore Bucks program provides an option that can help students with financial planning and budgeting for the costs of attending CWRU.

How?

Simply head to the University Bookstore at Uptown and purchase the textbooks and academic supplies needed for classes. If you wish to add these costs to your financial account, hand your CaseOne Card (student ID) to the cashier and ask that your purchases be charged to Bookstore Bucks. Be sure to keep your receipts so you can track your Bookstore Bucks' purchases. Each undergraduate student is eligible to charge up to \$625 in Bookstore Bucks per semester. Charges made using Bookstore Bucks will appear on the student account bill, available in SIS on the "Campus Community" page. Payment of Bookstore Bucks charges remains the student's responsibility.

When?

For fall 2017, Bookstore Bucks purchases can be made at the Barnes & Noble University Bookstore through Sept. 12. These expenditures will appear on the Sept. 19 invoice. Payment for Bookstore Bucks charges will be due in full Oct. 3. (Tuition for fall 2017 is due Sept. 8.)

Anything else?

Bookstore Bucks can only be used to obtain academic materials. Other University Bookstore purchases, such as that great dorm rug, or the new CWRU sweatshirt, must be purchased in the usual manner, using cash, a check, debit/credit cards, or CaseCash.

Questions about purchases made using Bookstore Bucks should be directed Auxiliary Services Office (auxiliary@case.edu).

2017-2018 Important Dates

Summer 2017	
Fall Semester Registration for First-Year Students	July 11-14
Residence Hall Move-in for International Students	Aug. 18
Residence Hall Move-in for New Student Orientation	Aug. 20
New Student Orientation	Aug. 20-27
Parent & Family Orientation	Aug. 20-21
Meet Your SAGES Advisor	Aug. 22
Individual Advising Appointments	Aug. 23-25
Computer Science Proficiency Examination	See orientation schedule
Chemistry Proficiency Exam	See orientation schedule
Physics Proficiency Exam	See orientation schedule
Mathematics Proficiency Exam	See orientation schedule

Fall 2017	
Classes Begin	Aug. 28
Late Registration Fee (\$25) Begins	Aug. 29
University Convocation	Aug. 30
Labor Day – University Closed	Sept. 4
Late Registration and Drop/Add Ends	Sept. 8
Deadline Credit/Audit	Sept. 8
Homecoming	Oct. 5-8
Midterm Grades Due	Oct. 23
Fall Break – No Classes	Oct. 23-24
First-Year Students Can Begin Major Declaration	Nov. 1
Open Registration for Spring Begins	Nov. 13
Thanksgiving Holiday – University Closed	Nov. 23-24
Deadline for Class Withdrawal and P/NP (first-year students)	Dec. 8
Last Day of Class	Dec. 8
Reading Days	Dec. 11, 15
Final Exams Begin	Dec. 12
Final Exams End	Dec. 20
Holiday Recess Begins	Dec. 21
Final Grades Due by 11 a.m.	Dec. 22

Spring 2018	
Registration and Drop/Add Begin	Nov. 13
Martin Luther King Jr. Day – University Closed	Jan. 15
Classes Begin	Jan. 16
Late Registration Fee (\$25) Begins	Jan. 17
Late Registration and Drop/Add End	Jan. 26
Deadline Credit/Audit	Jan. 26
Mid-term Grades Due	March 12
Spring Break – No Classes	March 12-16
Deadline for Removal of Previous Term "I" Grades	March 30
Open Registration for Summer Begins	April 2
Open Registration for Fall Begins	April 9
Deadline for Class Withdrawal and P/NP (first-year students)	April 30
Last Day of Classes	April 30
Reading Days	May 1-2
Final Exams Begin	May 3
Final Exams End	May 10
Final Grades Due by 11 a.m.	May 12
University Commencement	May 20

Summer 2018	
Memorial Day – University Closed	May 28
Classes Begin	June 4
Independence Day – University Closed	July 4
Classes End	July 30
Final Grades Due by 12 p.m.	Aug. 1