

# 2011 Study Abroad Participant Guide



**A E R O S P A C E**  
**S U M M E R P R O G R A M**

*FRANCE*

## Congratulations!

You have been selected for the GEA Summer Aerospace Program 2011! Soon you will be on your way to an experience of a lifetime and this Study Abroad Participant Guide will help you every step of the way. Just think of it as your study abroad survival manual. Okay, it's time for take-off; let's go!

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Summer Program Website: <a href="http://sites.google.com/site/geasummerprogram/">http://sites.google.com/site/geasummerprogram/</a>	



## Arrival in Toulouse

You should arrive in Toulouse no later than Thursday, June 2nd, in order to get rested before the program begins. The ENAC Student Residence Hall is available to you as soon as May 30th. If you plan to arrive before that time, you will be responsible for your own accommodation.

Upon arrival on the ENAC campus, you'll show an ID card (passport, etc) to the Security Guard (Poste de Garde). They'll show you to how to get to "Résidence Clément Ader", where you'll check-in and get your welcome packet. Have the guard call the Summer Program Group Leader to come greet you:

**Brigit CALDER, – DII tél 89.33 (office) – cell 06.83.53.11.48**

**Toulouse – Blagnac Airport:** [english.toulouse.aeroport.fr/](http://english.toulouse.aeroport.fr/)

The Airport is a great place to use ATMs, exchange money, or cash traveler's checks for Euros (the European currency). See "Banking" in the Helpful Information section.

*Banque Populaire Occitane*

ATMs Located on the Arrival level of Hall B

Open Monday – Friday, 8am – 7pm

Saturday, 8am – 12:30pm



*Travelex (Currency Exchange)*  
Located on the Arrival level of Hall C  
Open Monday – Friday, 8am – 8pm  
Saturday & Sunday, 9am – 6pm

**Toulouse Train Station:** <http://www.gares-en-mouvement.com/gare.php?gare=frxyt>

"Gare de Toulouse Matabiau" is Toulouse's main station, where all long distance trains arrive and depart. You can get tickets at [raileurope.com](http://raileurope.com) and [voyages-sncf.com](http://voyages-sncf.com)

The train station does not have a bank to exchange money or cash traveler's checks.

However, ATMs are located in the lobby of the train station.

**DIRECTIONS** See map on the last page of this booklet

**Taxis** – Of course, the simplest, though most expensive, way to get to campus is to take a taxi. From the airport, a taxi will cost 30-40€; or from the train station, it will cost 20-25€; make sure you'll have enough Euro cash on-hand. The address to be dropped off at is:

**ENAC - PPP**

**7, avenue Edouard Belin**

**Public Transportation** – Information regarding airport shuttle, metro and bus schedules and route maps can be found at [www.tisseo.fr](http://www.tisseo.fr) and [english.toulouse.aeroport.fr](http://english.toulouse.aeroport.fr) "Access and Transport". Tisseo is the Toulouse public transportation network (metro/bus), tickets cost 1€40 one-way (the vending machines only accept coins). This ticket is valid for an entire trip (transfers, etc), so keep it with you until you arrive!





**From Toulouse – Blagnac Airport:** Airport Shuttle > Metro B > Bus 51, 68 or 108

**Take the Shuttle** (“navette”) in front of the airport to get to the city center

- Get off at the 3<sup>rd</sup> stop, **Allées Jean Jaurès** and transfer to **Metro Line B**
  - OR get off at the shuttle’s last stop, **Gare Matabiau**. Then follow “bus only” directions below; this may be easier with lots of bags.
- 4€ for one-way ticket; 3€10 if you’re under 25 years old
- Buy ticket at the shuttle station on the ground floor by Porte C
- Runs every 20 min from 7am – midnight every day
- <http://www.navette-tisseo-aeroport.com/en/>

**Take Metro Line B**, direction “Ramonville” from the **Jean Jaurès** Station

- Get off at **Faculté de Pharmacie**
- 1€40 for a ticket
- Buy ticket from vending machines (coins only) or “Pointe Vente” (ticket office) across from turnstiles
- Runs till midnight every day

**Take a Bus** and get off at “**ENAC**”

- Bus **51**, direction “Balma-Gramont” (weekdays till 7pm) or
- Bus **68**, direction “Lespinet/Struxiano” (weekdays & Saturday till 7pm) or
- Bus **108**, direction “St-Orens Lycée” (every day till 9pm)
- [www.tisseo-urbain.fr/horaires/](http://www.tisseo-urbain.fr/horaires/)

**From the Toulouse Matabiau train station:** Metro A > Metro B > Bus 51, 68 or 108

**Take Metro Line A**, direction “Basso Combo” from the **Marengo** Station

- Get off at **Jean Jaurès** and transfer to **Metro Line B**
- 1€40 for a ticket
- Buy ticket from vending machines (coins only) or “Pointe Vente” (ticket office)

**Follow directions above** for metro line B and the busses.

-OR- (bus only – the may be easier with lots of bags)

**From the Toulouse Matabiau train station:** Bus 27 > Bus 68

**Take Bus 27** direction “Lespinet/Struxiano” to its terminus.

- Buy a ticket from the driver – 1€40
- The “Tisseo” bus stop is in front of the train station (don’t cross the canal)
- Runs weekdays & Saturday till 7pm

**Take the bus 68** direction “Univ. P.Sabatier” and get off at “**ENAC**” bus stop.

## Suggested Packing List

Travel light! It is so much easier than struggling with a ton of luggage. Remember that you will be able to do laundry, so don't bring too many clothes. You can always buy something once you get to France in case you feel like you forgot something. The climate in France in the summer ranges from hot and humid to cool and rainy. Be sure to bring clothes that fit this type of weather. Also, you will be doing a lot of walking, so comfortable shoes are important! (High heels are tricky on cobble stones)

✓ **Don't forget to bring the following:**

- **Passport** and identity papers (+ copies)
- Proof of insurance (+ copies) in case of sickness or accident
- Credit card, ATM card, and/or traveler's checks
- Extra passport-size photos (useful for metro cards, etc...)
- Calculator, notebooks, pencils (for classes)
- Laptop, charger, **Ethernet cable** (RJ 45) & power strip w/ plug adapter\*
- Camera, charger, USB cable, memory cards & plug adapter\*
- Bath towel, washcloth, travel toiletries
- Swim suit and beach towel, Sunglasses, Sunscreen
- Sports equipment / clothing
- Rain coat and/or umbrella
- Comfortable walking shoes and shoes appropriate for technical site visits
- Summer clothes, Light jacket and a few warmer clothes
- Business Casual clothes for site visits (slacks, skirt, collared shirt, etc)
- Small / medium suitcase for trip to Paris / Poitiers / Biarritz & weekend trips
- French/English dictionary and France guidebooks
- This GEA Study Abroad Participant Guidebook!!

- ✗ **DO NOT bring anything with a heating element** (hair dryer, curling iron, clothing iron, etc)\*

\*See "Electrical Equipment" in the Helpful Information section.

### Important notes:

For the industrial site visits, you will need **business casual clothes**: Nice jeans or slacks, polo/button-down shirts and blouses, closed-toed shoes. This means no shorts, t-shirts, torn jeans, sandals, high-heels, etc...

Bring a small/medium-sized suitcase. We have a two-week trip planned where we will travel to Paris by plane, and then continue on to Poitiers and Biarritz by bus. You'll have access to laundry in Poitiers so pack light; it will be easier to travel around! You can always leave bulkier items in your rooms in Toulouse.

You'll be allowed 20 kg of checked baggage for the trip to Paris (but you'll want to pack much lighter than that). See [www.airfrance.us/](http://www.airfrance.us/) for carry-on baggage limits, including *restrictions on liquids*.

## Helpful Information

### Passports

Everyone must have a valid passport to travel to France. If you already have one, please check the expiration date to ensure that it will still be valid during the time you travel to France. If you do not have a passport, see the following site for directions on how to obtain one: <http://travel.state.gov/passport> . Once you have your passport, be sure to make copies of it. Leave one copy at home and bring another with you in case your passport is lost or stolen (remember to keep the copy separate from your passport).

Since you're staying in France for less than 3 months, US Citizens do not need to apply for a visa (you'll enter the country as tourists). Citizens from other countries should check with the French Embassy or Consulate in their home country to verify entry requirements.

We recommend that all students traveling abroad consult the US Department of State's website for information regarding safety notices:

[http://travel.state.gov/travel/cis\\_pa\\_tw/cis\\_pa\\_tw\\_1168.html](http://travel.state.gov/travel/cis_pa_tw/cis_pa_tw_1168.html)

### Banking

**IMPORTANT: Call all of your banks before you leave to alert them of your travel plans, and familiarize yourself with the international fees and spending limits.** Otherwise, your card may be blocked or you can get caught with hefty fees. Keep photocopies of everything in your wallet at home- in case you lose them, you'll need the card and phone numbers.

France's currency is the Euro (EUR or €). Check [google.com/finance](http://google.com/finance) for current exchange rates. We recommend that you use **ATMs to get cash**, and to use **credit/debit cards for large purchases**. There are ATMs located throughout France, and you can withdraw money directly from your account and will receive the bank's exchange rate (usually the best). Remember that there are ATM usage fees (charged by your home bank and by the bank from which you are withdrawing), so to prevent excessive fees, we recommend that each time you take out enough money to last you awhile. Some banks have agreements with overseas banks that eliminate these fees (such as Bank of America & BNP in France: [bankofamerica.com](http://bankofamerica.com) )

Credit cards are a great way to make purchases. The credit card automatically converts the charges into dollars on your statement and you have a written record of your purchases. Most charge a 3% fee on foreign currency transactions; make sure you understand how this works.

**DO NOT use a credit card to withdrawal cash at an ATM; this is usually very expensive!**

Always use an ATM/Debit card for cash. If you're not sure, check with your bank!

Of course, traveler's checks or exchanging American dollars are another option for getting Euros, but are less convenient and usually a hassle.

### Cell Phones

International roaming and calling rates for your US cell phone are usually very expensive. Furthermore, only phones designed for European GSM networks ("World Phones") will work. If your cell phone can accept a SIM card (only AT&T or T-Mobile phones in the US), AND has been UN-SIM-Locked, you can purchase a French SIM card to use the phone in France. Call your cell phone provider for specific information. If you are planning on

returning to France in the future an investment in a bottom of the line French phone may be worth it. These run around 30euros.

### Phone Number Principles

French phone numbers have 10 digits and start with “0” (ex 05.12.34.56.78). The country code for France is 33, the US and Canada is 1. The international dialing prefix for calling from France is 00, US and Canada use 011. In the same way that you add the area code when calling long-distance within the US, you replace the “0” at the beginning of the French number with the international dialing prefix and France’s country code:

		Calling To	
		France	USA
Calling From	France	05.12.34.56.78	00.1.555-234-5678
	USA	011.33.5.12.34.56.78	1.555-234-5678
	Cell	+33.5.12.34.56.78	+1.555-234-5678
	Phone*	(or 05.12.34.56.78)	(or 555-234-5678)

\*Cell phones can still dial numbers the conventional way, or use the universal international dialing prefix, “+” (press and hold 0), which replaces 00 or 011. If you store numbers in this format, the call will go through no matter where you are calling from or to. This is why phone numbers are often listed as “+33.5.12.34.56.78” or “+1.555-234-5678” in emails or on business cards.

French cell phone numbers all start with “06”, and have 10 digits just like landlines. However, it is always more expensive to call a French cell phone (receiving a call on a cell phone doesn’t cost anything, however).

See “Phones” in the ENAC Residence Hall and Campus section.

### Student ID Card

We’ll provide you with an ENAC – Université de Toulouse student ID card for the summer. While this should be sufficient for most student discounts in France, you can also get an International Student ID Card (ISIC). This provides additional reductions at numerous theaters, concert halls, shops and museums. To obtain an ISIC or information about it, check out the following site: [www.isiccard.com](http://www.isiccard.com) . Some schools sell ISIC in their Travel Center or Study Abroad Office.

### Carte 12-25 Rail Discount Card and Eurail

If you plan to take several trips by train while in France, you may want to buy the 12-25 card at the train station before you buy your first ticket. This card, which costs about 50€ and requires a photo ID and a Passport Photo, guarantees at least a 25% discount on train travel within France and may entitle you to a 50-60% discount on certain trains. For more information, visit [www.12-25-sncf.com](http://www.12-25-sncf.com) (French only).

A Eurail pass may be more appropriate if you plan to travel outside of France as well. Eurail passes allow unlimited travel in a certain number of countries for a certain number of days (either consecutive or over a 2-month period). There are many peculiarities about using a Eurail Pass (nominal reservation fees and restrictions), but it is generally a cheap way to travel long distances in several countries. See [www.eurail.com](http://www.eurail.com) and [www.raileurope.com](http://www.raileurope.com) .



## Car Rental

In order to rent a car in Europe, you must be at least 21 and have had a driver's license for at least one year. You will be asked for an international credit card (Visa, for example) when you pick up the car. Though you normally do not need an international driver's license, it may be better for you to have one in case you are stopped by the police. A car rented in France can be used in any western European country without additional requirements; however, it is at your own risk if you leave the country. Two important notes: If you are under 25, you will have to pay a daily supplement of about 25€. Also, automatic cars are uncommon in Europe and are more expensive to rent than manuals. Two common car rental agencies are Hertz ([www.hertz.fr](http://www.hertz.fr)) and Europcar ([www.europcar.com](http://www.europcar.com)).

## Electrical Equipment

[http://en.wikipedia.org/wiki/Electrical\\_outlet#Type\\_E](http://en.wikipedia.org/wiki/Electrical_outlet#Type_E)

France's wall outlets use 220V AC power (as opposed to 110V in the US), Type E plugs for grounded and Type C "Europlug" for non-grounded connections. Most electronics with an AC adapter (cell phone, laptop, camera, razors) are Dual-Voltage Compatible (INPUT:110~240VAC). Check the label on the adapter.



If the device is Dual-Voltage Compatible, only a plug *adapter* is needed. Since grounded ("3-prong") plugs vary across Europe, it is best to get a two-prong non-grounded "Europlug" adapter. These usually work with any plug (even 3-prong US) in any outlet in Europe (except the UK). They also tend to be cheaper than the more complicated, less versatile adapters.

Otherwise, you will need a voltage *converter* to change 220V to 110V AC (otherwise the device will fry when you plug it in). Available at Radio Shack and most travel stores for ~\$20, they tend to be heavy, cumbersome, unreliable, and increase the risk of short circuits / electrical fires.



**IMPORTANT: Do not bring anything with a heating element- Hair Dryer, Curling Iron, Clothing Iron, etc...** Even with the appropriate voltage converter, these items tend to catch fire while in use. "Travel" irons and hair dryers don't usually work well; it's usually cheapest, easiest and safest to buy what you need when you get to France.

## Luggage

Check with your airline to see what your luggage allowance is. Generally, international flights have more allowance for bags without fees. Make sure you **bring a small / medium suitcase** that you can use for our two-week trip to Marseille, Poitiers and Biarritz (and your own travel on the weekends). See the note in the Suggested Packing List section.

## Socialization and Safety

Student socialization may not vary much from one culture to another. Generally, although a majority of students at the university will be citizens of the host country, higher education institutions bring together students from varied cultures. Students enjoy going out or



throwing parties. Very often, alcohol is involved. This has safety implications, as the likelihood of alcohol-related accidents and rape incidences increases. Also, the use of illegal substances may have serious consequences. It is in your best interest not to get involved in activities that may infringe on the law of the land.

Study abroad gives you the opportunity to learn more about the culture of the people and get to tour the country. While this experience is enriching, ensure that your security comes first. Be sure to establish the security situation of the sites you intend to visit. There are places where tourists may be robbed or physically attacked if precautions are not taken. Overseas experiences can provide a lifetime of happy memories and stories, provided that you have ensured your safety throughout your stay.

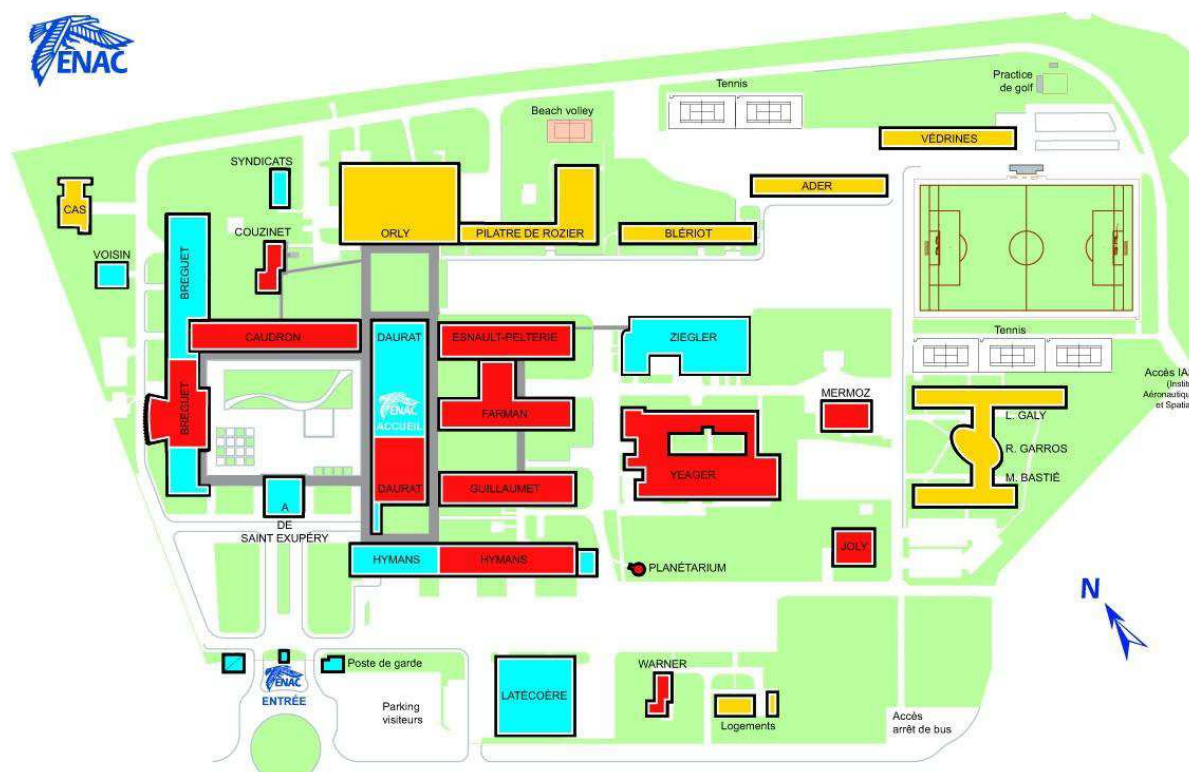
### **Helpful Links**

- Toulouse Information: [worldfacts.us/France-Toulouse.htm](http://worldfacts.us/France-Toulouse.htm)
- Learn a little French!: [www.bbc.co.uk/languages/french](http://www.bbc.co.uk/languages/french)
- Lonely Planet France Guide: [www.lonelyplanet.com/worldguide/france](http://www.lonelyplanet.com/worldguide/france)
- Americans in Toulouse Club: [www.americansintoulouse.com](http://www.americansintoulouse.com)
- Association France – USA: [www.franceusa.org/association/regions/toulouse/](http://www.franceusa.org/association/regions/toulouse/)

### **Budgeting**

Depending on the exchange rate (check out [www.xe.com](http://www.xe.com) for current rates), daily life in France can be a little pricey for an American. The following examples can help you in preparing a budget for your time abroad.

- Dinner out: 15€ - 20€
- Sandwiches and kebabs: 3€ - 5€
- Ice cream, one scoop: 2€
- Coffee: 2€
- Movie: 4€ with student ID
- Large bottle of water: 1€
- French pastries: 1€ - 3€



ENAC Administration	Buildings
Information / Reception	Daurat
General Management (DG)	A. de Saint Exupéry
Initial Training (DE)	A. de Saint Exupéry
Secretary General (SG)	Hymans
Human Resources Department (GP)	Hymans
Financial Services (SF)	Hymans
Logistics Department (LO)	Latécoère
Course Planning Office	Bréguet
Administrative Masters Programme	Daurat
Accounting Office	Daurat
Admission Office	Voisin
Library	Daurat
Printing and Publishing	Bréguet
Trade Unions	Syndicats
<b>DSNA / DTI</b>	
French ANSP	Ziegler
R&D Department	

ENAC Studies	Buildings
Air Traffic Management Department (CA)	Esnault-Pelterie
Communication, Navigation and Surveillance Department (CNS)	Farman
Languages Humanities and Social Sciences Department (LH)	Caudron
Mathematics and Computer Science Department (MI)	Caudron
Air Transport Department (TA)	Hymans
Bellonte Amphitheatre	Bréguet
Costes Amphitheatre	Bréguet
Boucher Amphitheatre	Couzinet
Engines Lab	Mermoz
Examination rooms	Daurat
ATC Simulators	Yeager
Planetarium	Planétarium
AVSEC Centre	Warner

ENAC Village	Buildings
Halls of residence	Ader, Bastié, Blériot, Galy, Garros, Védrières
Gymnasium	Pilat du Rozier
Sport halls	Pilat du Rozier
Léonard de Vinci Centre	Orly
Theatre	Orly
Cafeteria	Orly
Restaurant	Orly
Students Centre	Orly
Child Holidays Centre	CAS
Social Activities	

## ENAC Residence Hall and Campus



You can receive mail & packages at:

Mr. or Ms. ....

GEA Summer Program

ENAC Résidence ADER Chambre n° ...

7, avenue Edouard Belin

31055 TOULOUSE Cedex 4, FRANCE

### Reception opening hours:

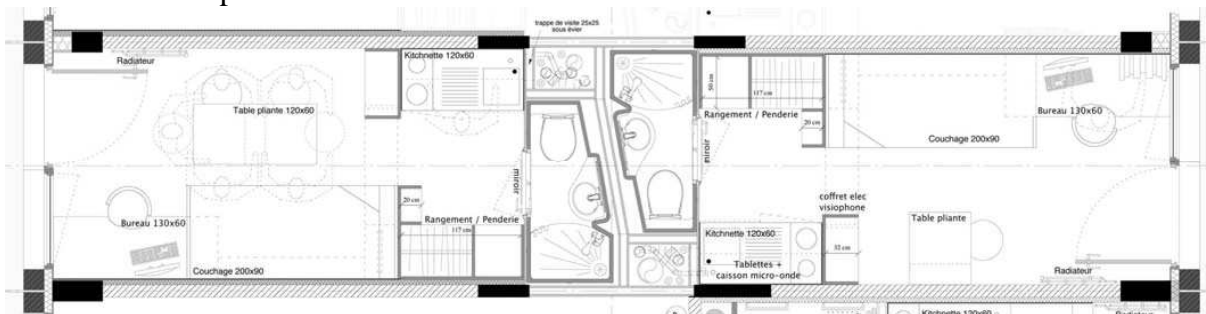
- ☐ Clément **ADER** Monday to Friday from 9:30 am to 12:30 pm and from 2:30pm to 7:30pm
- ☐ Weekends and public holidays, reception is at Rolland **GARROS** from 7am to 9pm

☐ In addition to these hours, there is a residential warden on duty at **ADER** apartments and you may check in with him every day (weekends and public holidays included) from 9pm to 7am. To contact him, call 05.62.17.45.28.

### Equipment of studios and small studios (“studettes”):

- ☐ A 200 x 90 cm/79in.x35in. bed (with blanket, bolster, etc...)
- ☐ An equipped working surface, fit for a computer & screen
- ☐ A small kitchen with cupboards, a shelf (for a microwave), a sink, two electric plate hobs and a fridge (110 litres)
- ☐ Bath facilities with a shower, a washbasin, toilets

- ☐ A wardrobe and shelves
- ☐ A storage space for big suitcases
- ☐ Book-cases
- ☐ A study chair
- ☐ A folding table for meals, and a stool
- ☐ A wall mirror
- ☐ A desk lamp
- ☐ A tableware set
- ☐ A triple-function socket (for FM, Satellite and Digital Terrestrial Television/DTTV), a conventional phone and ADSL network socket
- ☐ Free access to the internet via wiring (RJ45 connection in use since 2010)
- ☐ Voltage: 230 V 50 Hz
- ☐ An electric door lock (operated with a security badge which opens all residence halls)
- ☐ An interphone



You may stay in your room from **May 30 to July 18, 2011**

### Other services and amenities

- ☐ Lending and laundering of sheets (cost: €40)
- ☐ Cleaning service (studio: €30, room: €15, small studio: €25)
- ☐ Vending machines (cold & hot drinks, precooked dishes to warm up)
- ☐ An assembly room (on booking)

### Contact and access

Contact: **Mrs. Florence DERRIEN**  
 Accommodation Manager  
 Phone: +33 5 62 17 45 16  
 or  
 Housing Office  
 Phone: +33 5 62 17 45 30  
 Fax: +33 5 62 17 45 22  
 E-Mail: [hebergement@enac.fr](mailto:hebergement@enac.fr)

**Address:**  
 Service Hébergement  
 Résidence Garros  
 7, avenue Edouard Belin  
 BP 54005  
 31055 Toulouse Cedex 4  
 FRANCE

Access:

- **By public transport:**

- From the airport: Take the **Navette** shuttle in the direction of **Marengo SNCF** and get off at the **Jeanne d'Arc** stop. Take **metro Line B** in the direction of **Ramonville** to **Faculté de Pharmacie**. From there, you can take **Bus 51** (toward **Balma Gramont**), **Bus 68** (toward **Lespinet Struxiano**), or **Bus 108** (toward **St-Orens Lycée**) to the **ENAC** bus stop.  
If you prefer not to wait for the **Navette**, you can take **Bus 66** (toward **Saint Cyprien – République**), get off at the end of the line, take **metro Line A** in the direction of **Balma Gramont** to **Jean Jaurès**, and then take **Line B** and one of the busses as described above.
- From the SNCF train station: Follow the tunnel to the metro station **Marengo**, take **Line A** in the direction of **Basso Cambo** to **Jean Jaurès**, then take **Line B** and one of the busses as described above.
- From downtown by bus: Take **Bus 27** (toward **Rangueil**) to **Lespinet Struxiano**, and take **Bus 68** toward **Université Paul Sabatier** to **ENAC**.  
→ <http://www.tisseo.fr/>

- **By taxi:**

Ask for the “Complexe scientifique de RANGUEIL” and then “ENAC” (next to CNES). The address is: 7 Avenue Edouard Belin

## Computers

There is not an official Wi-Fi network for ENAC. You will have free access to the internet in your room if you bring a laptop (and an Ethernet cord), but you will need a mobile phone in order to receive the password they will send as a text message. There is free access to internet in Rolland GARROS. There is also Wi-Fi in the classrooms at SUPAERO. If you do not bring a laptop or would like to use a computer during the day, you can use the computer labs on campus (Note: Campus buildings close at 7:15pm). You will be given a log-in and password that will be valid during your stay in Toulouse.



While studying at ENSMA in Poitiers, you will also be able to use the computer rooms and will also receive a log-in and password that is valid during your stay.

**Note:** The rooms only have one power outlet. Use a US power strip or extension cord to run multiple items off of one plug adapter/outlet. However, do not overload the outlet!

## Phone

Public telephones that use phone cards are available on the ground floor of the residences, as well as in the parking lot in front of ADER. International phone cards (“cartes téléphoniques”) can be purchased at any “Tabac” located throughout Toulouse. For 7€50, a France Télécom phone card gives about 400 minutes for calls to the United States. As stated above, cell phones can also be purchased for around 30€. These work like US traphones and are good for texting.

A cheap and convenient way to call internationally (and locally) is with [jajah.com](http://jajah.com) or skype. With jajah you log onto the website, and can then initiate a phone call from the phone in your



room to anywhere in the world, usually for 2~10 cents a minute. With skype you need to download the software from <http://www.skype.com/intl/en-us/home/> and create an account.

See “Phone Number Principles” in the Helpful Information section.

## Meals

The ISAE-Supaero cafeteria (“cantine” or “resto”) is located in the center of campus between the classrooms and residence halls. You will be provided with meal tickets when you will have lunch at ISAE (if you lose your ticket, you’ll need to pay for your own meal).

You are responsible for all of your dinners and meals on the weekend. Your ENAC ID serves as your meal card there, and you can add money to your account as often as necessary either through the automated machine at the base of the stairs or by giving money directly to the cashier.

### ☐ at ENAC

#### ☐ Restaurant opening hours:

o week: 11:30am to 2:00pm and 7:00pm to 8:30pm

o weekend: 12:00pm to 1:00pm and 7:00pm to 8:30pm

#### ☐ Cafeteria opening hours:

o week: 7:15 am to 3:30pm

o weekend: closed

#### ☐ Prices for students:

o meal regular price: €3.25

o breakfast: €2.00 (cafeteria)

#### ☐ Prices without any school subsidy:

o meal regular price: €6.36

o breakfast: €2.00 (cafeteria)

### ☐ at ISAE

#### ☐ Lunch

☐ Meal ticket allows you 20 points of food. Main dishes are 11-14 points.

Starters, desserts, and yogurt/cheese are 3-5 points. Beverages are 5 points.

o Weekday hours: 11:30am – 1:15pm

o Weekend hours: 12:00pm – 1:15pm

#### ☐ Dinner

☐ Points cost 13 cents each. Main dishes are 11-14 points. Starters, desserts, and yogurt/cheese are 3-5 points. Beverages are 5 points.

o Weekday hours: 6:30pm – 8:15pm

o Weekend hours: 6:30pm – 7:45pm



You will also be provided with meal tickets during your stay at ENSMA, as well as at ENSICA if necessary.

## Sports

You can get a membership card to the “Association Sportive” on the SUPAERO campus for 3€, which gives you access to all the sports facilities (tennis, basketball, volleyball & squash courts, soccer field, indoor pool). You are responsible for yourself during any sports

participation: therefore you must have proof of insurance (health and civil liability) during your stay in France. On the ENAC campus, your ID badge will give you access to the weight room and you'll be permitted to book the gym as well as use the tennis courts and sports field.

### **Library**

A library is located inside the school. You are permitted to check out the books.

### **TV Rooms & Auditorium**

There is a TV room in ADER with a range of international channels, and one in GARROS.

### **Foyer**

There is a student-run "bar & grill" on the ground floor of Résidence 1 at SUPAERO, where they serve cheap drinks and food (burgers, spaghetti, etc). The Foyer also hosts parties and concerts.

### **Laundry Room**

A laundry room is located in the basement of your residence (ADER). There are 10 washers and 4 dryers – all coin operated. You can provide your own soap or purchase it through the machine itself. It is **not** open 24/7.



During your stay in Poitiers, you are welcome to use the laundry room in the university residence Gemini. This room is located on the second floor, on the odd side. The washing machines and dryers are both coin-operated.



## School and Hotel Information

The GEA is made up of 3 schools: ISAE (which has two campuses, Supaero and ENSICA) and ENAC in Toulouse and ENSMA in Poitiers. You will primarily be studying at ISAE-Supaero and ENSMA, though you will be working with instructors from ENSICA and ENAC, too. For the week that you are studying at ENSMA in Poitiers, you will be staying in a hotel.

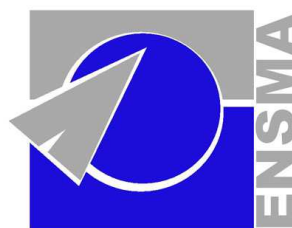
ISAE  
10, avenue Edouard Belin  
BP 4032  
31055 Toulouse Cedex 4  
Tel: 05 61 33 80 80  
[www.isae.fr](http://www.isae.fr)



ENAC  
7, avenue Edouard Belin  
BP 4005  
31055 Toulouse Cedex 4  
Tel: 05 62 17 40 00  
[www.enac.fr](http://www.enac.fr)



ENSMA  
Téléport 2  
1, avenue Clément Ader  
86961 Futuroscope Chasseneuil Cedex  
Tel: 05 49 49 80 80  
[www.ensma.fr](http://www.ensma.fr)



### **Stay at ENAC**

For this part of your stay you will be housed in a hotel in Poitiers.

#### **Central Hotel**

35, place du Maréchal Leclerc  
86000 Poitiers  
Tel : +33 5 49 01 79 79

<http://hotel-chambres-doubles-reservation-chasseneuil-du-poitou.centralhotel86.com/>

### **Stay at ENSMA**

Breakfast will be served at the hotel. You will be given a meal ticket for lunch in the school cafeteria. If you lose your ticket, you are responsible for paying for your own lunch. The hotel does not serve dinner; however, Poitiers has numerous restaurants to choose from.

Information on transportation between the city center and the ENSMA campus will be provided upon arrival.

- ✓ Please be respectful of others in the hotel and keep the noise down after 9pm.

## Toulouse

Toulouse is the 4<sup>th</sup> largest city in France with nearly 450,000 inhabitants (850,000 including the suburbs). This “Pink City,” as Toulouse is nicknamed, is in the southwest of France and is the capital of the Midi-Pyrénées region. Located on the banks of the Garonne River and close to the Pyrenees Mountains, it is halfway between the Atlantic Ocean and the Mediterranean Sea.



La Mairie de Toulouse – Toulouse City Hall

The city has a fascinating dual personality. On the one hand, it is home to the French aerospace industry and the country’s growing information-technology sector. On the other hand, it is *the* alternative artistic and intellectual center of France (alternative to Paris, that is).

### Getting around Town

The metro and the bus system are the most convenient way to get around town. You can get metro/bus maps and city maps as well as other useful information from the Tourism Office, located by the Line A-Capitole metro stop and behind “la Mairie de Toulouse” (City Hall).

Many different metro/bus ticket options exist. A one-way ticket is 1€40; a round-trip ticket costs 2€50. A “ticket soirée,” or night ticket, costs 2€50 and gives you unlimited rides after 7pm. Many students choose to buy a Tisséo card. The card itself costs 6€ and requires a passport-size photo. With this card, you then have the option of buying 10 rides at a discounted student price of 4€00, or a month of unlimited rides at the student rate of 10€.

### Getting into Town

There are three ways to get into the city center from Supaero. The easiest option is to take the metro. The metro station for Line B is about a 10-minute walk west of campus, or, you can take a bus to the “faculté de pharmacie” stop. Another option is to rent a bike for the duration of your stay. A paved path along the Canal du Midi leads straight into town; once in town, you will have to bike in the street. Of course, the third option is to walk; however, it takes at least an hour to get to the city center when going by foot!

### Safety Tips in Toulouse

Usual safety measures apply for tourists in Toulouse. Toulouse being a smaller southern city, the atmosphere is more relaxed and you don't necessarily need to stay as alert as you would in Paris, for example. One thing that you do have to pay attention to is traffic. As a pedestrian, you always have to be careful when crossing, even when you have the green light. You must also be careful when walking in the street on a side street, as cars and motorbikes can quickly come up behind you.

### Helpful Links

- Toulouse Tourism Office: [www.uk.toulouse-tourisme.com](http://www.uk.toulouse-tourisme.com)
- Metro and bus system: [www.tisseo.fr](http://www.tisseo.fr) (French only)
- City Guide—Gives ratings for restaurants and information on movie times: [www.fra.cityvox.fr/guide\\_toulouse/AccueilVille](http://www.fra.cityvox.fr/guide_toulouse/AccueilVille) (French only)

## Biarritz & Basque Country

Biarritz is located on the Atlantic coast, less than 20 miles from the Spanish border. There, you can enjoy the sun, the beach, and delicious paella and seafood. Biarritz is considered one of Europe's major surfing destinations; on your free day, rent a board and try your luck!

The Basque Country, of which Biarritz is a part, is a region in the western Pyrenees that covers areas in both France and Spain. The Basque language is unrelated to French and Spanish, and road signs in this region are often written in both French and Basque. It is not uncommon to see older people, particularly men, wearing a red beret, a tradition in Basque Country.



Grande Plage de Biarritz

### Helpful Links

Biarritz Official Site: [www.biarritz.fr/en](http://www.biarritz.fr/en)



## Poitiers

Poitiers is the capital of the Poitou-Charentes region and is located in western France between Bordeaux and Paris. With nearly 150,000 residents (including the suburbs), it is sometimes referred to as the “plus petite des grandes villes”: the smallest of the big cities. It is, of course, significantly smaller than Toulouse. Take some time in the evenings to wander along the pedestrian streets, relax in Parc de Blossac, or enjoy a good meal.



**Notre Dame la Grande**

### Helpful Links

- Poitiers Tourism Office: [www.ot-poitiers.fr](http://www.ot-poitiers.fr)
- Poitiers City Hall: [www.mairie-poitiers.fr](http://www.mairie-poitiers.fr)



**ENSMA Campus**

## Paris

Paris is the capital of France and is located in the heart of the country. It has a population of about 12 million residents and is often referred to as the City of Love. Paris is full of beautiful churches, interesting museums, and historical monuments—well worth a weekend visit!



### Safety Tips in Paris

Usual safety measures for tourists apply in Paris as in any other large city in the world. Stay aware of your surroundings to avoid pickpockets, particularly in crowded, touristy areas. Pay more attention to this when using public transportation (metro, RER, bus). It is not necessarily unsafe to use the metro or RER at night, especially if you are with a group of people. If needed, you can call a taxi: ALPHA TAXIS, 01 45 85 85 85.

### Helpful Links

Paris Air Show: [www.paris-air-show.com](http://www.paris-air-show.com)

Paris Tourism Office: [en.parisinfo.com](http://en.parisinfo.com)

<b>Academic Program</b>
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**Coursework**

You may receive between 3 to 6 credits (depending on your university) towards your degree upon the successful completion of this program. The program consists of 5 academic modules, as well as conferences and visits to aeronautical industries and historical/cultural sites. You will be provided with the necessary handouts and materials for you classes, so you do not need to purchase any books ahead of time.

**General Program**

<b>AEROSPACE ENGINEERING</b>
<b>Air Transport &amp; Aviation Safety Concepts</b>
<b>Aircraft Architecture and Structure Analysis</b>
<b>Fundamentals of Combustion and Detonation</b>
<b>Internal Aerodynamics of Propulsion Systems</b>
<b>Visits: Aeronautical and Historical/Cultural Sites</b>

The following pages describe each of the modules in more detail.

## **Air Transport & Aviation Safety**

**Location :** ENAC

**Objectives :** To give an introduction to the economic setting of the air transport industry, highlighting the characteristics of competition in this sector.  
To understand the implementation of Air Transport technical requirements to reach and maintain a minimum safety level.  
To give a global overview of the European regulatory Organization / requirements applicable in Europe, and their conformity to corresponding international rules.  
To make the students familiar with the Type certification procedures and process for a large Transport Aircraft.

**Prerequisites :** None

**Contents :**

**Air Transport Economics:**  
Introduction to air transport economics (presentation of the air transport sector, the air transport sector in figures, the various types of airlines).  
Competition in air transport (regulation and deregulation of air transport markets, the characteristics of competition in air transport, the different markets and airlines strategies).

**Civil Aviation Organization :** International air transport organizations (ICAO), regional and national organizations, air freedoms, annexes to the ICAO convention, European organizations, EU, ECAC, JAA, EASA.

**Aviation Safety concepts :** Safety level objectives, status and improvement initiatives, Aircraft airworthiness (ICAO Annex 8), bilateral agreements principles, certification procedures (part 21), organization approvals (DOA, POA), type certification process for a large transport aircraft, changes to the type certificate, approval of new models / design changes / repairs, continued airworthiness activities

**Bibliography :** Warsaw convention (1929), Chicago convention (1944) and annexes

**Evaluation :** Written exam



# **Aircraft Architecture and Structure Analysis**

**Location :** ISAE

**Objectives :** To provide a broad knowledge of the aeronautical structures: design, analysis and tests, maintenance  
To provide the methods for the static analysis of different parts of an aircraft (wings, fuselage, ...)  
To illustrate the relationship between the calculation methods and the physical phenomena (buckling of a spar, loads in a landing gear),

**Prerequisites :** Elasticity, strength of materials, long beams, plates and bodies

**Contents :** Lectures :

- Design : materials, manufacturing methods, assemblies, sections breakdown, quality control, structure protection
- Analysis and tests: FEM, loads, static analysis, fatigue & damage tolerance, other analyses, structure testing, particular risks analysis, failure cases
- Maintenance, MPD, AMM, SRM, inspection methods, Service Bulletins
- Static analysis : strength analysis methods, bending moment, torsion moment, shear force, pressurization, tension and compression, shear stress, stability, analysis of a wing box

Labs :

- buckling of a spar, loads in a landing gear, manufacturing of composite materials plates

**Bibliography :** E.F. Brunh, Analysis and design of flight vehicles structures, Tri-state offset company, 1973

**Evaluation :** Written exam

# **Fundamentals of Combustion and Detonation**

**Location :** ENSMA

**Objectives :**

- To provide fundamental knowledge of thermodynamics applied to reactive systems in order to better understand related phenomena : flames, detonations.
- To provide fundamental knowledge of combustion and detonation, and the methods and means of calculating effects on the surroundings.
- To provide a basic knowledge on how turbulent reacting flows can be dealt with as far as their modeling is concerned in conditions that prevail in the new generation of jet engines combustion chambers.

**Prerequisites :** Basic fluid mechanics and thermodynamics, shocks, waves of small amplitude

**Contents :**

- Generalities on combustion of solids, principles, regimes, process stabilization, types of flame, solid fuel and solid propellants, conduction, gasification, radiation, heat transfer, ignition, burning velocity calculation, heterogeneous combustion, ...
- Generalities on thermodynamics, gasdynamic discontinuities, detonation in gaseous mixtures, application to supersonic and hypersonic propulsion.
- Application to rocket propulsion and fire safety analysis.
- Development of a theoretical model for gas-solid and liquid-gas combustion.
- Lab works : study of premixed and diffusion flames in burners (40kW industrial swirl burner and 3kW water heater burner), introduction to pollutant formation in flames.

**Bibliography :**

Pope, S.B., Turbulent flows, Cambridge University Press, 2000.

Turns, S.R., An introduction to combustion: concepts and applications, Mac Graw Hill International Editors, Mechanical Engineering Series, 1996.

“Detonation Wave Initiation of Ram Accelerator Propellant" (P. BAUER and C. KNOWLEN), Shock Waves, 11, (2001) pp. 267-273.

“Compressibility Effects of Unreacted Propellant on Thermally Choked Ram Accelerator Performance" (P. BAUER and C. KNOWLEN), Eur. Phys. J. Appl. Phys., 21, (2003), pp.233 – 238

D. Desbordes, « Detonation et Explosions, Aspects fondamentaux » ENSMA,1998

R.Zitoun and D .Desbordes, « Propulsive Performances of Pulsed Detonations » Comb.Sci.and Tech .,1999,144.

Gilles BERTIN, Jean-Michel MOST, Mickael COUTIN, « Wall fire behavior in an under-ventilated room », Fire Safety Journal, 2002.

D. Honoré, B. Lecordier, A. Susset, D. Jaffre, M. Perrin, J-M Most, M. Trinité, « Time resolved particle image velocimetry in confined bluff body burner flames », Experiment in Fluids (supp), pp S248-254, 2000

**Evaluation :**

Lab + Written exam

## **Internal Aerodynamics of Propulsion Systems**

**Location :** ISAE

**Objectives :** The purpose of this course is internal aerodynamics of air intakes (subsonic, supersonic and hypersonic), of compressors and turbines (rotors and stators), and nozzles of turbojets engines and rocket engines (influence of viscosity, stalling criteria, reattachment, shock waves...).

**Prerequisites :** General aerodynamics, fluid mechanics

**Contents :** Generalities on Propulsion, functioning of subsonic and supersonic air intakes (without and with mouse, shocks position, surge), friction and stalling problems in nozzles  
Dimensioning of compressors and turbine cascade blades (rotors and stators), associated criteria.

**Bibliography :** "Propulsion Elements" by A. CARRERE (SUPAERO Edition)

**Evaluation :** Written exam (end of term quiz)

## **Technical and Historical/Cultural Visits**

### **TECHNICAL VISITS**

This is just a sample of the aeronautical industries that may be visited during this program. Please be aware that the technical visits change from year to year.

- ✓ It is expected that you dress professionally for these visits, so remember to pack appropriate clothing (no t-shirts, jeans, shorts, flip flops, etc).
- ✓ Since your passport is required for many visits, please keep it with you at all times.

#### *Toulouse:*

- Airbus
- CEAT
- ATR

#### *Basque Country:*

- Turbomeca
- Messier Dowty
- SOCATA

#### *Marseille (even years only):*

- Eurocopter
- Marignane Airport & water bombers
- DASSAULT Aviation
- AIA Cuers

#### *Paris (odd years only):*

- Paris Airshow

### **HISTORICAL/CULTURAL VISITS**

*Toulouse City Tour:* [www.uk.toulouse-tourisme.com](http://www.uk.toulouse-tourisme.com)

Discover the city of Toulouse with an English-speaking guide. You will learn about historical monuments such as City Hall, as well as interesting facts such as why Toulouse is called “la Ville Rose” (The Pink City).

*Carcassonne:* [www.carcassonne.org](http://www.carcassonne.org)

The centuries-old fortified city of Carcassonne has 52 towers and 2 rings of town walls forming 3km of battlements. A guided tour in English will help you learn why this city is classified as a UNESCO World Heritage Site.

#### *Poitiers City Tour*

Poitiers is a picturesque city where you'll stay for one week while you study at l'ENSMA. During your stay, a guided tour in English will provide an interesting history of the city, as well as visits to Church Notre-Dame la Grande and the Palais de Justice.

*Futuroscope:* [www.futuroscope.com](http://www.futuroscope.com)

Just outside of Poitiers is this futuristic park where you can see a number of fascinating non-stop shows and events. Futuroscope offers the very latest advances in giant-screen film, video, and the Internet.

*Cité de l'Espace:* [www.cite-espace.com](http://www.cite-espace.com)

Located just outside of Toulouse, this theme park is dedicated to space and space exploration. Cité de l'Espace is both informative and fun—a great place to spend an afternoon!

## Grade Determination

There are 4 multiple choice quizzes; please see the detailed schedule for quiz dates. All of the technical visits and some of the cultural visits will also contribute to your grade. After these visits, you and a partner will write a brief report describing the content of the visit as well as your personal impressions. More details regarding these reports will be given during the program introduction.

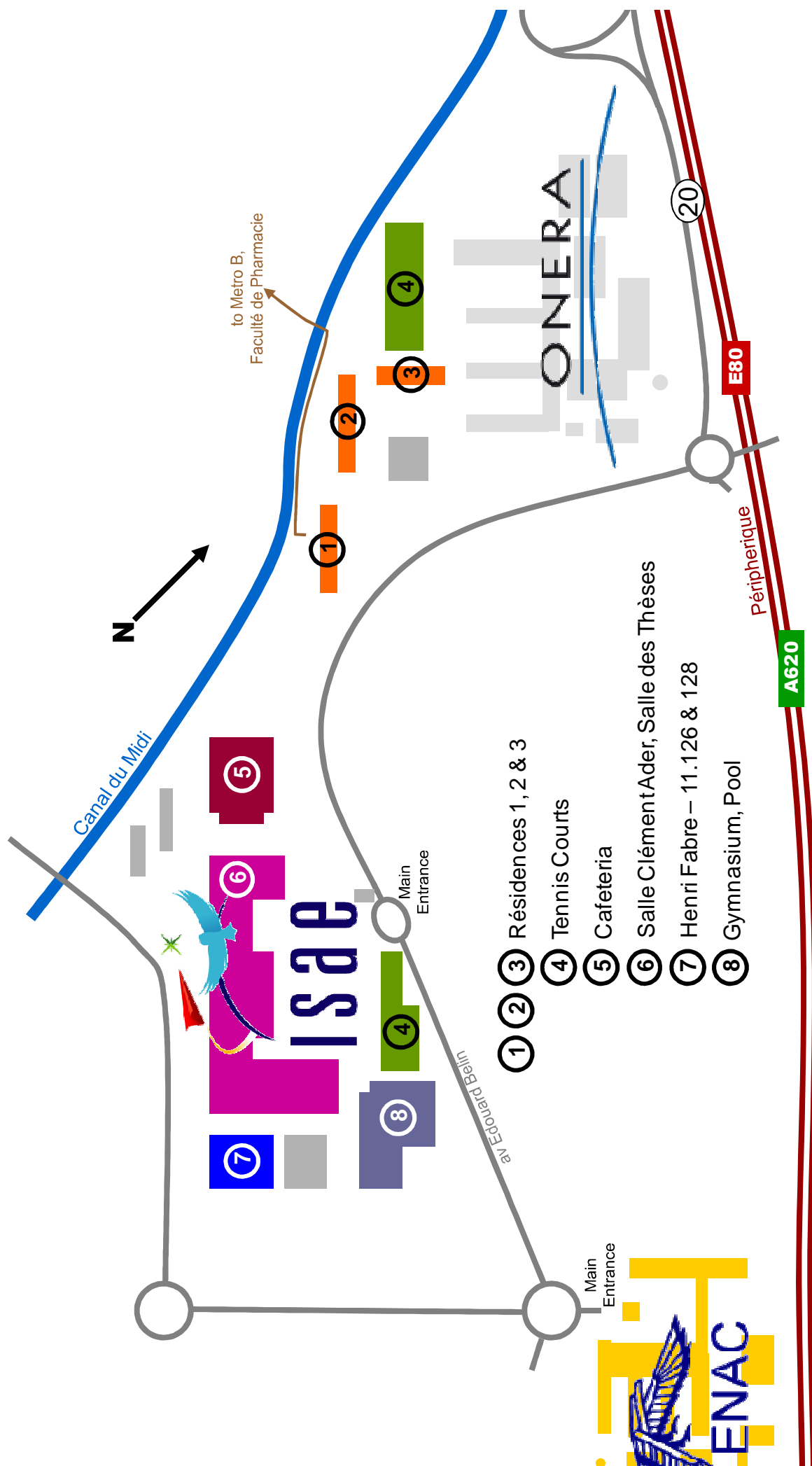
**Participation in all classes and visits is mandatory!!**

## Grading System

TOTAL POINTS POSSIBLE (200)	RESPONSIBLE	Report	Quiz 1	Quiz 2	Quiz 3	Quiz 4	Total
<u>Module 1: AIRCRAFT ARCHITECTURE</u> ANALYSIS OF LOADS ON AIRCRAFT STRUCTURE	DELORME - ROLIN		25				25
<u>Module 2: AIR TRANSPORT</u> CIVIL AVIATION STRUCTURE AND ORG AIR TRANSPORT ECONOMICS AVIATION SAFETY CONCEPTS	HAILLOT  LENOIR HAILLOT			25			25
<u>Module 3: HETEROGENEOUS COMBUSTION</u> HETEROGENEOUS COMBUSTION	BAUER – MURA - VIDAL				25		25
<u>Module 4: PROPULSION SYSTEMS</u> INTERNAL AERODYNAMICS OF PROPULSION SYSTEMS	CARRERE					25	25
<u>Module 5: CULTURE AND TECHNICAL VISITS</u> HISTORY OF CARCASSONE CITY OF POITIERS ASTRIUM FUTUROSCOPE LIEBHERR MESSIER-DOWTY PARIS AIR SHOW SOCATA CEAT AIRBUS FINAL ASSEMBLY ATR GENERAL SUMMARY		10 10 - 10 - 10 10 - 10 10 10 20					
<u>TECHNICAL ELECTIVE CREDITS</u>			25	25	25	25	100
<u>CULTURAL ELECTIVE CREDITS</u>		100					100

## Transcripts

Official transcripts will be sent to your university after the program to allow you to get your U.S. credits. Please check with your home university to better understand how these credits will transfer.





## GEA Contacts while in France

**Group Leader:**      **Brigit CALDER**                      +33 6 83 53 11 48                      [bmcalder@frontier.com](mailto:bmcalder@frontier.com)

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ISAE (Toulouse):      Yves THOMAS                      +33 5 61 33 80 83                      [yves.thomas@isae.fr](mailto:yves.thomas@isae.fr)

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ENAC (Toulouse):    Marc CHOUFFOT            +33 5 62 17 45 58            [marc.chouffot@enac.fr](mailto:marc.chouffot@enac.fr)

or +33 6 62 08 58 22

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ENSMA (Poitiers): Aurélie COTILLON +33 5 49 49 80 16 [aurelie.cotillon@ensma.fr](mailto:aurelie.cotillon@ensma.fr)

<b>Phone Card</b>	<b>0 805 80 3003</b>	<b>Code : 258 074 274</b>	<b>00-1-AreaCode-Number for US</b>
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In case of emergency, families are allowed to contact the student through the Group Leader, who will then forward the message as soon as possible.

Please take me to – Veuillez m’emmener à :

# ENAC - PPP

**7, avenue Edouard Belin**

**BP 54005**

**31055 Toulouse Cedex 4**

**+33 5 62 17 45 58 or + 33 6 62 08 58 22**

