

# Future Classroom Lab workshop

## Programming for the 21<sup>st</sup> century classrooms

19-21 October 2015, Future Classroom Lab, Brussels

### INTRODUCTION

Programming and computational thinking skills are becoming ever more important in our society and working life. Learning to code develops various skills such as **problem-solving, logical reasoning and creativity**, and can help student motivation in mathematics theory as it encourages them to apply their knowledge. Schools are key players in introducing programming to students in an engaging way, and help defuse negative stereotypes around computer science. During the course teachers will learn about the importance of programming in today's society and education, learn ways to introduce programming in cross-curricular work, discover and test different programming tools, explore ways to motivate and encourage students, and develop a programming lesson plan for their classrooms.



The course objectives are:

- To support teachers who are or will be involved in the teaching of computer science, either as a direct subject or as an element of another subject, with their delivery of computer science theories, concepts, principles and activities
- To provide teachers with concrete ideas and resources in teaching programming
- To provide teachers with an overview of the societal context and rationale for the teaching of programming
- To offer teachers a place of exchange with like-minded peers to exchange resources, ideas and provide guidance to each other

The course is **addressed to secondary school teachers**:

- Computer science teachers who want to get new ideas, tools for teaching their subject
- STEM and other teachers who would like to link to computer science concepts and/or apply programming in their subjects

The participants are expected to have intermediate computer skills, but previous programming experience is not necessary.

## TRAINERS

### PATRICK FEENEY

Patrick has an educational background in physics and taught math and physics at IB and AP level before becoming an educational game designer. He has worked in international and private schools in New York, Sophia Antipolis, and Honolulu and now lives in Brussels. Through his company R3D Pixel he produces iPad games for math, logic, and English as a second language. But he has never really left the classroom. He co-leads the Brussels CoderDojo, a programming club for kids ages 8-18. He also teaches the Scratch programming language to teachers and interested parents through the Open Tech School. His particular interests lie in curriculum design for STEM subjects and the new opportunities presented by the latest classroom tools which will help teachers cover STEM skills and develop student creativity at the same time.



### FREDERIK WYLIN

Frederik Wylin is teacher at vti Sint-Lucas Menen, a school for science and technology in the province of West-Flanders, Belgium. He teaches technology, ICT and business management. During his lessons he likes to apply new ways of teaching, with or without ICT, to develop the creativity and skills of the student to 100%. He is also eTwinning Ambassador for Belgium and founder of the Coding Club DIY @vtiMenen. He is also interested in international exchanges, engineering, Arduino, etc.



### STUART BALL

Stuart is the programme manager of Microsoft Partners in Learning in UK. In his position he develops strategies for teachers' professional training and resources for computing curriculum. He has participated in the development of the Kodu game lab and he is the creator of the BETT Award winning Kodu Kup competition. He is the creator and co-author of the popular Microsoft UK Teachers Blog <http://blogs.msdn.com/b/teachers/>, and he is an active speaker and presenter at conferences. Before his current job, Stuart worked as a deputy head teacher, a school improvement officer, and a class teacher.



## PRE-COURSE ACTIVITIES

The trainer has prepared some pre-activities for you to get prepared for the workshop.

- Please go to this website: <http://fcl.eun.org/programming-course-2015>
- Please read the given questions and watch the videos.
- When you have prepared your responses you can go to the [online questionnaire](#) and submit your responses.
- Please do this before the start of the course 19 Oct.

## AGENDA

Day 1 – Monday 19 October 2015	
8:45-9:15	Arrival and registration
9:15	Workshop introduction
9:30 (incl. coffee break)	Two <b>parallel sessions</b> to choose from: <ul style="list-style-type: none"> <li>• Creative Computing: Scratch code-heavy</li> <li>• Scratch animation (import gif and use editor in vector mode)</li> </ul>
12:30	Lunch
13:15 (incl. coffee break)	Two <b>parallel sessions</b> to choose from: <ul style="list-style-type: none"> <li>• Mobile: App Inventor</li> <li>• Robotics: Lego Mindstorms EV3</li> </ul>
16:30-17:00	Presentation of the Future Classroom Lab
19:30	Dinner at the Brussels centre

Day 2 – Tuesday 20 October 2015		
9:00	<b>2-day participants:</b> Kodu Game Lab & Touch Develop <i>@ Microsoft Innovation Centre            Rue Montoyer 51, 1000 Bruxelles</i>	<b>3-day participants:</b> Two parallel sessions: <ul style="list-style-type: none"> <li>• Web design: HTML/CSS, and Wix</li> <li>• Javascript: Code Combat and Minecraft</li> </ul> <i>@ Future Classroom Lab</i>
12:20	Lunch @ FCL	
13:10	<b>2-day participants:</b> Two parallel sessions: <ul style="list-style-type: none"> <li>• Web design: HTML/CSS, and Wix</li> <li>• Javascript: Code Combat and Minecraft</li> </ul> <i>@ Future Classroom Lab            Until 15:30</i>	<b>3-day participants:</b> Kodu Game Lab & Touch Develop <i>@ Microsoft Innovation Centre            Rue Montoyer 51, 1000 Bruxelles            Until 16:30</i>

Day 3 – Wednesday 21 October 2015	
9:00 (incl. coffee break)	Two <b>parallel sessions</b> to choose from: <ul style="list-style-type: none"> <li>• Text based languages Python: Ear Sketch</li> <li>• 3D Printing and modeling: TinkerCad, Sketchup</li> </ul>

12:30	Lunch
13:30	Coding at European level: ideas and resources <ul style="list-style-type: none"> <li>• EUN Coding report</li> <li>• European Coding Initiative</li> <li>• All you need is code website</li> <li>• Feedback session</li> <li>• Certificates</li> </ul>
15:00	End of the workshop

*Changes to the course programme are possible*

## PRACTICAL INFORMATION

### HOW TO ARRIVE TO BRUSSELS

Brussels has two airports: Brussels National airport (Zaventem), about 30 min to the city centre, and Brussels South airport (Charleroi), about 60 min to the city centre. You can arrive conveniently to Brussels also by train from London (Eurostar), Paris, Amsterdam and Cologne (Thalys).

#### From the Brussels National airport (Zaventem) to the centre:

- BY TRAIN: The train takes you to the main train stations in the Brussels city area: Gare du Nord, Gare Centrale, and Gare du Midi. The ticket costs 8.5€. The trains go every 15-20 min and leave from the Level -1 of the airport terminal:  
[www.brusselsairport.be/en/passngr/to\\_from\\_brussels\\_airport/train/](http://www.brusselsairport.be/en/passngr/to_from_brussels_airport/train/)
- BY BUS: The buses **Number 12** (Monday to Friday until 20h) and **Number 21** (weekends all day and weekdays after 20h) take you to Diamant, Schuman and Luxembourg. The ticket costs 4-6 Euros. You find the bus schedules here: <http://www.stib.be/horaires-dienstregeling.html?l=en>

#### From the Charleroi airport (Brussels South) to the centre:

- Take the Brussels City Shuttle bus which takes you to the Brussels Gare du Midi (main train station). A return ticket costs 28 euros (and a one-way ticket normally 14 euros).
- For the bus schedule, see here: [www.charleroi-airport.com/en/passengers/acces-and-parking/brussels-city-shuttle/index.html](http://www.charleroi-airport.com/en/passengers/acces-and-parking/brussels-city-shuttle/index.html)
- At Gare du Midi you can continue your journey by using different metro lines, buses or pre-metro.

## HOW TO ARRIVE TO THE HOTEL

*The following hotel has been booked for the participants whose course option includes accommodation for 2 or 3 nights (18-20 Oct OR 18-21 Oct) depending if you are attending the workshop for 2 or 3 days. If your accommodation has NOT been reserved through EUN, you might be accommodated in a different hotel; please follow the instructions given to you by your NSS/school.*

### Hotel BLOOM

Address: Rue Royale 250, 1000 Brussels

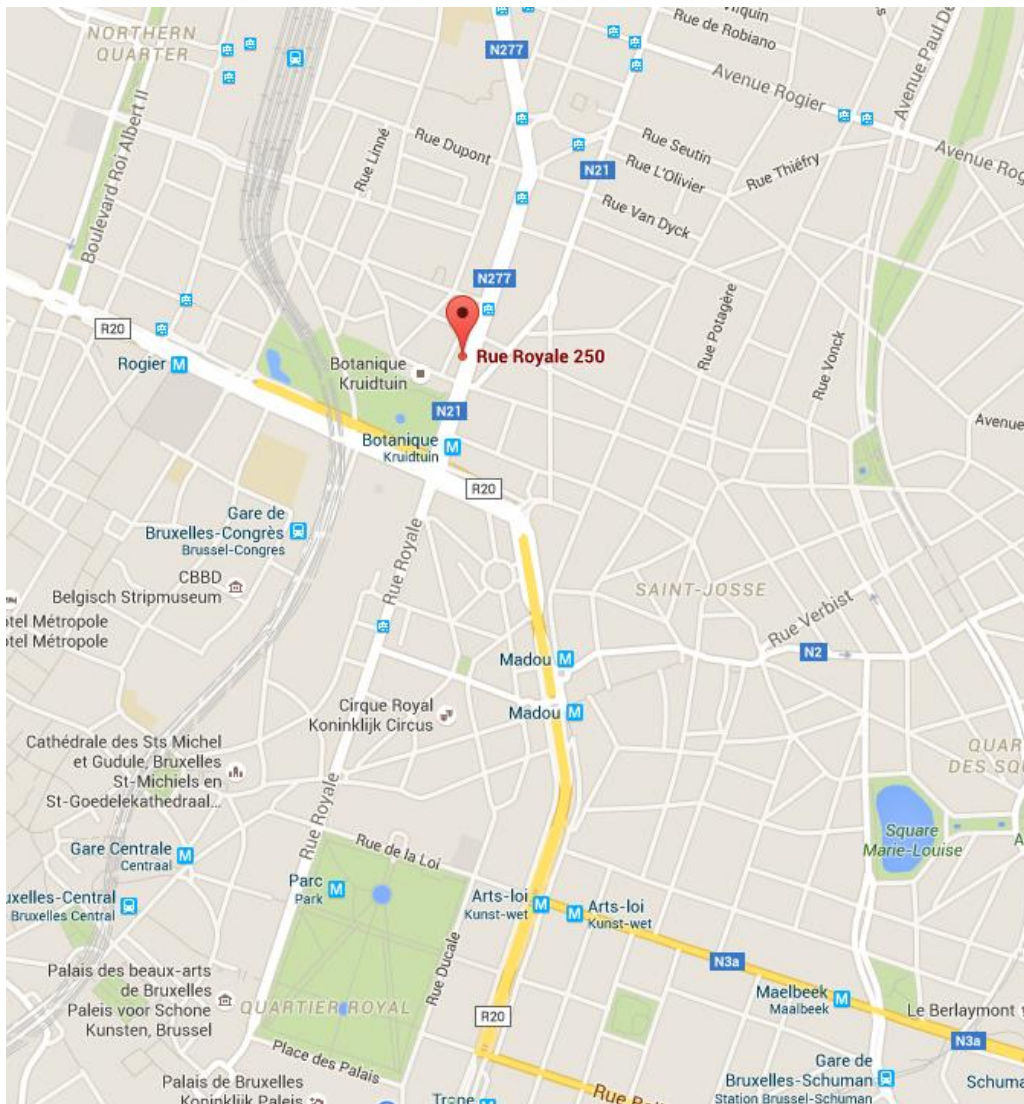
<http://www.booking.com/hotel/be/bloom.en-gb.html>

From the Brussels National airport (Zaventem) to the hotel:

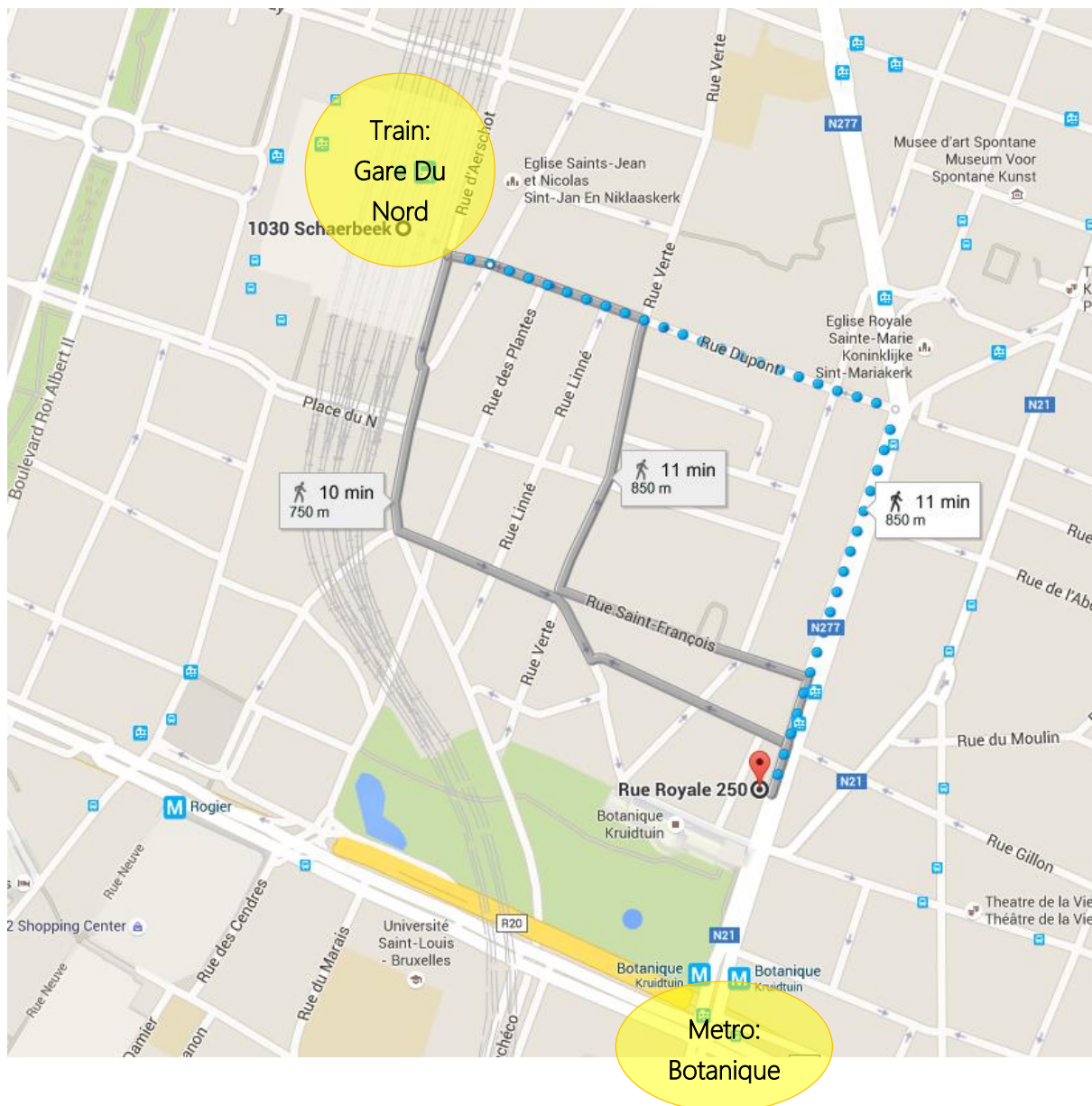
- Take the train until the Brussels GARE DU NORD
- From the station, walk 700 meters to the hotel (see the map)

From the Charleroi airport (Brussels South) to the centre:

- Take the Brussels City Shuttle bus which takes you to the Brussels Gare du Midi.
- At Gare du Midi, take metro lines 2 or 6 towards "Elisabeth". Hop off at BOTANIQUE and walk 100 meters to the hotel (see the map)







## COURSE VENUE AND HOW TO ARRIVE

The courses will be organised in Brussels, at European Schoolnet’s Future Classroom Lab.

**Address:** European Schoolnet, Rue de Trèves 61 – 3<sup>rd</sup> floor, 1040 Brussels.

[www.europeanschoolnet.org/](http://www.europeanschoolnet.org/)

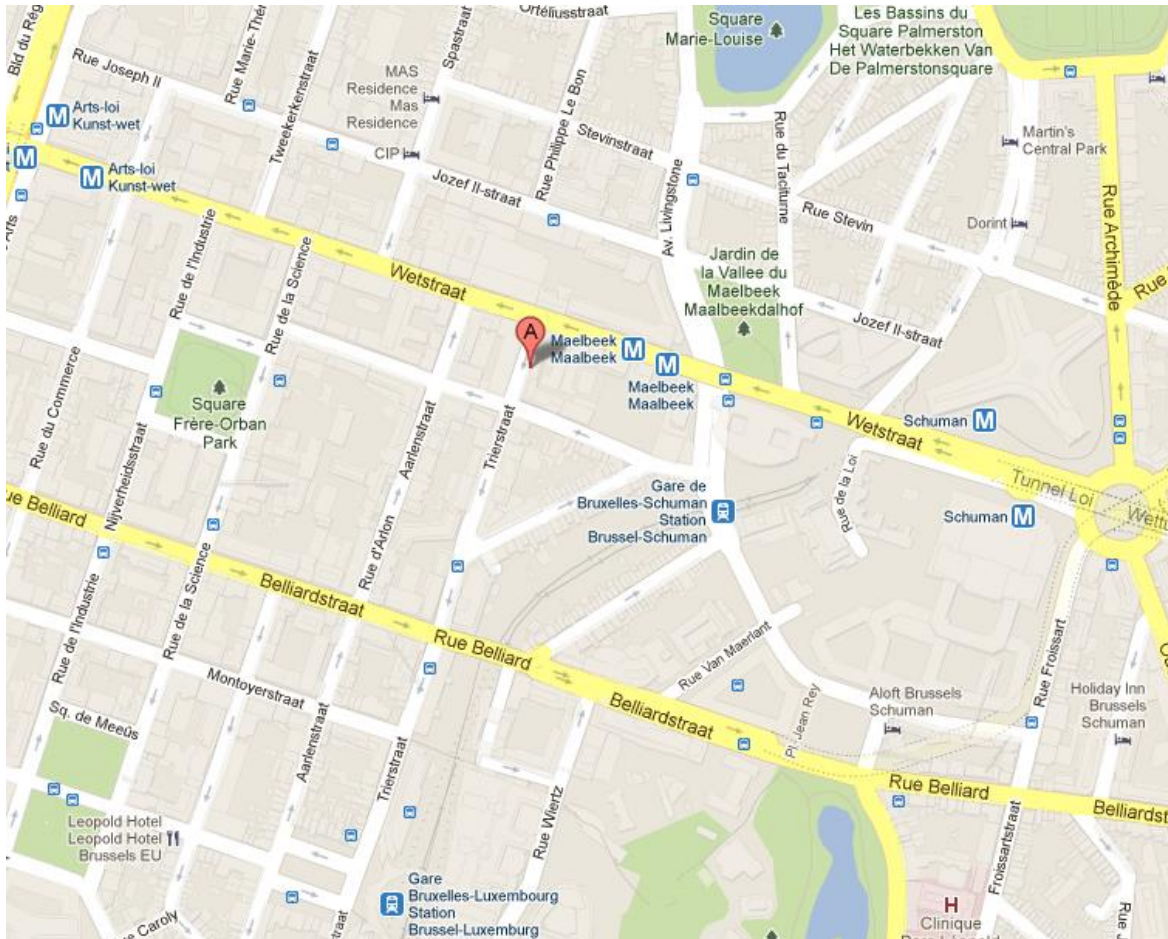
**Future Classroom Lab** - The Future Classroom Lab is a fully equipped, reconfigurable, teaching and learning space developed by European Schoolnet, its 30 supporting Ministries of Education and leading educational technology providers. Future Classroom Lab helps to visualise how conventional classrooms and other learning spaces can be reorganised to support changing styles of teaching and learning. Read more: <http://fcl.eun.org>

### How to best reach the EUN office and Future Classroom Lab

The office is close to the following places:

- Schuman (buses, metro lines 5 & 1, train, airport bus): 10 min walk

- Luxembourg (buses, train, airport bus): 10 min walk
- Arts-Loi (metro lines 1, 2, 5, 6): 10 min walk
- Maelbeek (metro lines 5 & 1): 2 min walk – use the exit "Rue de la Loi/Wetstraat"
- Thon EU hotel: 1 min walk (across the street)

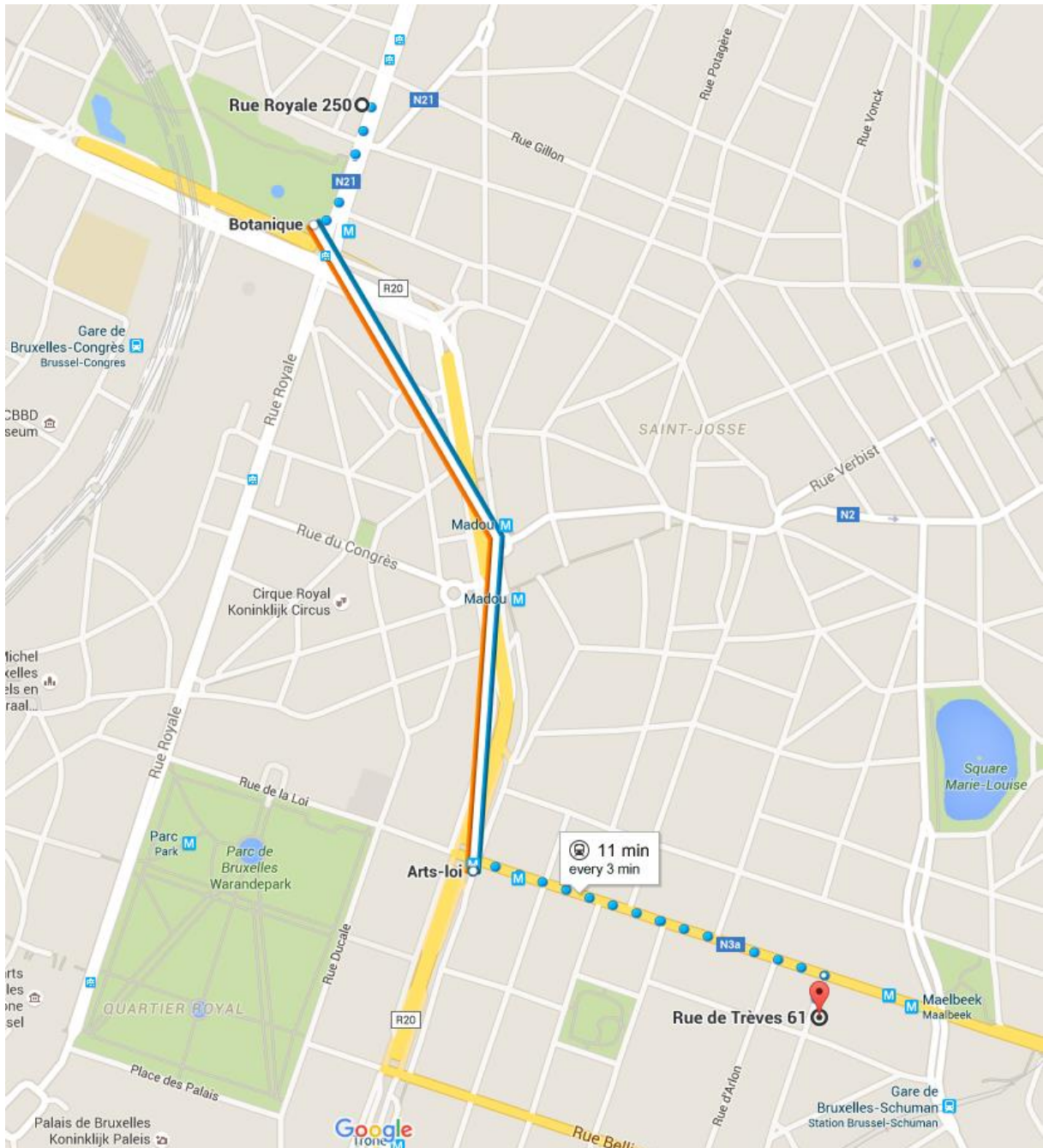


### How to arrive to the EUN office and Future Classroom Lab from the hotel

From the Hotel Bloom, you can either walk (1.8 km) or take the metro (see the map below):

- Go to BOTANIQUE, take metro 2/6 towards Roi Baudoin or Simonis.
- Hop off at ARTS-LOI and walk 10 min to the office.





*Be aware of pick-pockets whenever you are in public places, especially when using public transports.*

## INSURANCE

We ask the course participants to confirm they have health insurance that is internationally valid during their stay in Brussels. EU citizens can obtain a free European Health Insurance Card (EHIC).

## CANCELLATION POLICY

If the participant cancels his or her participation up to 6 weeks before the course begins, there are no cancellation fees. If the participation is cancelled between 6 weeks and 2 weeks before the



course starts, 50% of the course fee will be charged. If they cancel any later, there will not be any refund. Substitutions are possible right up to the start of the course.

## ABOUT

### EUROPEAN SCHOOLNET

European Schoolnet is the network of 30 European Ministries of Education, based in Brussels. As a not-for-profit organisation, we aim to bring innovation in teaching and learning to our key stakeholders: Ministries of Education, schools, teachers, researchers, and industry partners.  
[www.eun.org](http://www.eun.org)

### FUTURE CLASSROOM LAB

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<http://fcl.eun.org>

## CONTACT

For any questions related to the course please contact Elina Jokisalo, [elina.jokisalo@eun.org](mailto:elina.jokisalo@eun.org)