Barcelona 2016 – Courses
www.cc.gatech.edu/barcelona | barcelona@cc.gatech.edu

Overview:
- Courses are taught in English by GT faculty (with the exception of Spanish-language courses) for GT resident credit.
- Choose 4 courses for a total of 12 credit hours for the summer.
- No prerequisites are required for any courses and ALL majors are welcome.
- Classes take place on the campus of Universitat Politècnica de Cataluña (UPC).
- Courses’ meeting times are typically arranged to avoid any scheduling conflicts for students. Spanish and TBD will be scheduled against one another for the 2016 program, so both courses cannot be taken during summer 2016.
- Spanish-language courses are offered, but not required, and may carry a supplemental fee after assessing student interest and projected enrollment.
- It is expected that students will spend an average of 40 hours per week on coursework: approximately 16 hours per week in class for the 4 courses taken through the program plus 24 hours per week working outside of class.

Who are the faculty for summer 2016?
- Sabir Khan: College of Architecture, Associate Professor; sabir.khan@coa.gatech.edu
- Eric Gilbert: College of Computing, Assistant Professor; egilbert@cc.gatech.edu
- Monica Sweat: College of Computing, Senior Lecturer; sweat@cc.gatech.edu
- Wendy Newstetter: College of Engineering, Director of Educational Research and Innovation; newstetter@gatech.edu

Course Offerings for summer 2016:
ARCH 4128: Barcelona: Architecture, Design, Material Culture (Humanities Credit, International Plan) with Prof. Khan
This course takes advantage of its location -- Barcelona and its incredible design culture -- to get you looking at and thinking about design at a whole range of scales. The course is divided into three modules: Architecture; Furniture; Everyday Things. In each module we will practice how to look at and make sense of -- to make considered judgments about -- buildings, furniture, interactive objects, and everyday things. You will come away with an ability to look, notice, describe, relate, question, speculate, and discover -- a way of seeing that you could apply in many different domains. No background in “architecture” or “design” is necessary: if you are curious and take pleasure in discovering new ways of seeing, knowing, and understanding, this course is for you.

ARCH 3135: City Literacy: What Makes Great Cities Great (Social Sciences Credit) with Prof. Khan
This course engages the city of Barcelona directly in order to understand the relationship between cities and city life: how cities are conceived and perceived, negotiated and lived. We look closely at the relationship between physical form and social life - between the “hardware” and the “software” of a city -- to get a sense of the role design, politics, policy, technology, individual initiatives and collective actions play or could play in improving the quality of life in cities. The projects range from analysis and field observation to debates and interventions. The goal of the class is to leverage your summer living in Barcelona and visiting other European cities into a transformative experience so that you come back with a sense of what is possible in your own city and the neighborhoods in which you live.

CS 2050: Introduction to Discrete Math for CS with Prof. Sweat
You are in a tapas restaurant in Barcelona. What could be better? Exactly how many ways are there to pick three tapas selections from the twenty amazing kinds you see before you? This is just one type of question that will be solved in CS2050. Let’s face it, you’re traveling the world and expanding your mind. Why not hone your logic skills too? We'll delve into logic puzzles, propositional logic, proofs, number theory, basic counting, and more.
CS 3750/PSYC 3750: Human-Computer Interface Design and Evaluation with Prof. Newstetter
Why are some technologies easy to use while others drive us mad? How do certain products gain immediate acceptance and accolades while others fall into the dustbin of failed technologies? In this course, we will approach these questions from the perspective of HCI (Human-Computer Interaction). Broadly speaking, contributions to the field are made from three camps—technologists, behavioral scientists and designers. Each contributes a unique perspective and set of tools. This course introduces students to the issues and tools that each group brings to the design, development and evaluation of user-centric systems. This course will take advantage of the many cultural and historical sites found in Barcelona as a starting point for design. Several trips to important museums and architectural sites will be built into the course.

CS 4001: Computing & Society (Ethics Credit) with Prof. Gilbert
This course examines computing as a social process, with emphasis on ethical and social impacts on local and global organizations. Topics include the responsibilities of computing professionals, intellectual property, privacy governance and policy, and system safety and security. The course also discusses the social context of computer-based technology especially as it is revealed in transitional and cross-cultural differences.

CS 4400: Introduction to Database Systems with Prof. Sweat (prerequisites: CS 1301, CS 1315 or CS 1371)
In our modern world almost everything we encounter involves a database behind the scenes. This course introduces the fundamental concepts necessary for the design and use of modern database systems. We explore the concepts found in the database design process through the course material and through the completion of a group project. The project process will take you from the real life problem description to a conceptual data model, and from there, on to a database specific model (namely the relational data model). The final result is a GUI-driven application that interacts via SQL with the database underneath it all. We will see how to use the relational database language SQL to define the relations and to write SQL statements to insert, delete, retrieve, and update the data. We'll study ways to judge (and hopefully improve) the goodness of relations. We also examine some of the fundamental storage structures and indexing schemes that are used in relational database systems.

CS 4472: Design of Online Communities with Prof. Gilbert
Online communities are becoming an increasing part of how we work, play, and learn. But how are they designed? What are they really good for? Why are some communities more successful than others? What are the key issues in this field of research? In teams, you will use qualitative methods (interviewing) to understand and report on an online community of your choosing. At the completion of this course, students will be able to: understand important features of online interactions; analyze online interactions critically; design an online community; and, understand the research issues in this field.

Offered in cooperation with the Merit Language School at UPC, these Spanish courses are highly conversational and will provide an avenue for improving speaking and listening skills. Students interested in taking Spanish will need to take a placement test to qualify them for the appropriate level.

Please note: Registration permits for courses will be issued based on the order of the student’s acceptance into the program and other criteria. The maximum capacity for courses will be enforced; overload permits may be issued in exceptional circumstances. Apply and complete your application early to the program to ensure you get the courses you want. We recommend that you have 1-2 alternate courses in the event you are unable to secure a seat in your top 4 preferred courses. An online survey will be distributed in March 2016 to participants from which class rolls will be set by the program.