

## INFO-H511 : Web Services Course Information

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### Course Objectives

This course introduces web services and their related technologies. The course's main objectives are :

- To obtain a working knowledge of the internet (as the underlying Web infrastructure) and the HTTP protocol, which is the driver behind all main web services.
- To obtain an indepth understanding of the 2 major classes of web service technologies :
  1. the "Big Web Services" (WS-\*)
  2. the "REST"-style web services ;
- To critically analyze the advantages and disatvantages of both sets of technologies ;
- To obtain a background on Service Oriented Architecture (SOA) and Resource Oriented Architecture (ROA) ;
- To obtain a background on Business Processes and the Business Process Execution Language (BPEL).

After successful completion of this course the student will be able to :

- build programming-language specific web service client wrappers given a web service to connect to, based on the working knowledge of HTTP ;
- analyze web service requirements, and choose the according appropriate technology for implementation ;
- design and implement web services from the server side ;
- critically evaluate new web service technologies.

### Contacts

- Course responsible : Stijn Vansummeren (UB4.125, [stijn.vansummeren@ulb.ac.be](mailto:stijn.vansummeren@ulb.ac.be))
- Assistant : François Picalausa (UB4.133, [fpicalau@ulb.ac.be](mailto:fpicalau@ulb.ac.be))
- Course Web Page : <http://cs.ulb.ac.be/public/teaching/infoh511>

### Method of organization and evaluation

The course is organized as a combination of ex-cathedra lectures (given by the course responsible); seminars (prepared by and given by the students); machine exercises; and project work.

**The course does not have a traditional exam. Instead, students are graded on :**

1. active participation to the seminars (4/20) ;
2. the preparation and presentation of one seminar (6/20) ;
3. project work (10/20) to be delivered by the end of the semester.

Seminars are organized as follows :

- for each seminar, a small group of two to three students is given a list of reading resources on a particular topic as well as a set of accompanying questions. The group is asked to prepare a presentation on the topic (answering the given questions) and present this presentation during the seminar.
- The non-presenters are requested to read the same resources in preparation of the seminar ;
- During the seminar, the presenters present their presentation while the other students critically evaluate this presentation, and fuel discussion on the answers presented to the questions.

Each student will help prepare and present exactly one seminar. Attending the seminars presented by other students is a mandatory requirement for passing the course. Should you be unable to attend one of the theory lectures for whatever reason, please contact the course responsables as soon as possible.

Seminar presentations are graded on the following criteria :

- correctness of presented material ;
- clarity of presentation (synthesis of the topic by means of original examples, diagrams, demonstrations, . . .) ;
- the consultation of additional resources not on the reading list ;
- the active fueling of discussions with non-presenters.

## Schedule

Date	Time	Content	Room
Fri 17 Feb	14h-16h	Lect. 1 HTTP + Web Service general intro	S.AW1.126
Mon 20 Feb	14h-17h	Ex. 1 HTTP request & programmatic HTTP request (REST)	UB4.126
Fri 24 Feb	12h-14h	Lec. 2 REST	S.K.4.201
Mon 27 Feb	14h-17h	Ex. 2 Lab 2 : Developping REST services	UB4.126
Fri 9 Mar	12h-14h	Lect/sem 3 SOAP	S.K.4.201
Mon 12 Mar	14h-17h	Ex. 3 Lab 3 : Using & developing SOAP services	UB4.126
Fri 16 Mar	12h-14h	Lect/sem 4 WSDL	S.K.4.201
		Project <i>Project assignment</i>	
Mon 26 Mar	14h-17h	Ex. 4 Lab 4 : Composite services	J.1.104
Fri 30 Mar	12h-14h	Lect/sem 5 UDDI	S.K.4.201
Mon 16 Apr	14h-17h	Ex. 5 Lab 5 : Presentation layer	UB4.126
Thu 19 Apr	12h-14h	Lect/sem 6 Security 1	S.K.3.401
Mon 23 Apr	14h-17h	Ex. 6 Free to work on project. Opportunity for Q&A .	UB4.126
Thu 26 Apr	12h-14h	Lect/sem 7 Security 2	S.R42.5.110
Mon 30 Apr	14h-17h	Ex. 7 Free to work on project. Opportunity for Q&A.	UB4.126
Thu 3 May	12h-14h	Lect/sem 8 Addressing, resources,notification	S.R42.5.110
Mon 7 May	14h-17h	Ex. 8 Free to work on project. Opportunity for Q&A .	UB4.126
Thu 10 May	12h-14h	Lect. 9 Workflows & processes	S.R42.5.110
Thu 24 May	12h-14h	Q&A Q & A session	S.R42.5.110
Fri 1 June		<b>Deadline Project deadline</b>	