

Curriculum Development in Data Science and Artificial Intelligence

WP2: Study Visit in Athens



PROJECT INFORMATION

Acronym	DS&AI
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Duration	36 months

DELIVERABLE INFORMATION

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Abstract

This report consists part of WP2 total deliverable and its main purpose is to describe the Visit that took place in Athens from 4th of November to 8th of November 2019. Basic objective of the Visit was to transfer knowledge from the European partners to Asian partners, using tools as seminars, lectures, games and workshops. The work program was based on the needs of the development of the curriculum and took under consideration the requirements that have been given by the Asian partners during the digital meetings.

Introduction

During the Study Visit in Athens, 3 academic professionals from each Asian HEI traveled to Athens to witness first-hand the teaching process, course and lab setup and other operational issues of the relevant MSc degrees offered in AUEB.

This study visits was the first important step for the development of the new curriculum as the partners exchanged ideas, discussed their vision of what would the new programme include, and agreed on a broad structure. While keeping into mind the results of WP1, they decided which elements of the programme framework presented to them by their European partners would be easily transferable and would add value to their regional and national academic environments.

This activity helped the academic professionals of Asian HEIs:

- To add extra value and increase knowledge of Asian partners on different aspects of master modules from a European perspective.
- To benefit from different pedagogical and teaching techniques that EU partners use, so they can acquire some new teaching methods.

The work program was divided into three parts:

Part 1: Seminars/Lectures from Professors who are responsible for the relevant masters that are conducted in AUEB

Part 2: Presentation by the administrative staff and Lab staff of the University

Part 3: Workshops, in which:

1. the consortium finalized the core courses that will be designed,
2. the consortium discussed the first version of the outline of each course
3. the consortium finalized topics as, students' profile, value propositions of the program, program learning outcomes

Students' profile

The consortium decided that students who will be eligible for the specific Master Program can be grouped in three categories:

- Group 1 (fully prepared): Students whose background can be included in one or more from the below areas, programming, mathematics, and statistics
- Group 2 (partially prepared): Students who have related knowledge, e.g. computer engineering.
- Group 3 (not prepared): Students from other areas e.g science, marketing, business, medicine.

The reason why students were grouped into three categories is the need to attend or not some preparatory courses. Group 1 has no need to attend the preparatory courses; group 2 is going to attend some preparatory courses; and group 3 is going to attend all the agenda of preparatory courses.

Value Proposition and Learning Outcomes of the Program

The consortium decided to offer the below value propositions. After the attendance of the DS&AI Master Program, each student:

1. Should understand the principles and practices of data engineering.
2. Should understand the mathematical and statistical foundations of data analytics.
3. Should understand the foundations of logic, knowledge representation, and expert systems.
4. Should have knowledge of multiple application/problem domains.
5. Should have in-depth knowledge of supervised, unsupervised, and reinforcement learning systems, data modeling and management, network analysis, business analytics, and business intelligence
6. Should demonstrate a breadth of knowledge in reasoning under uncertainty
7. Should be able to utilize data engineering tools to implement a data analytic system and integrate it with an organization's business processes.
8. Should be able to implement data analytic models to solve specific problems for organizations.
9. Should be able to visualize data sets effectively.
10. Should be able to extract insights from data in order to inform decision making processes of organizations.
11. Should be able to evaluate different methodologies for analyzing data and apply those methodologies to solve problems in multiple domains.
12. Should be aware of the legal, ethical, social, and security issues in DS&AI systems.
13. Should be able to perform independent research in DS&AI.
14. Should be able to work in a group.
15. Should be able to act as a group leader.
16. Should be able to communicate effectively.

Core and Elective Courses of the DS&AI program

The core and elective courses that are going to be designed for the DS&AI Master program are:

Core Courses

- Machine Learning
- Data Modeling & Management
- Business Intelligence & Analytics
- Computer Programming
- Artificial Intelligence

Elective Courses

- Nature-Inspired Computing
- Computational Linguistics
- Knowledge Representation
- Computer Vision

- Social Network Analysis
- Recent Trends in Machine Learning
- Multicriteria Optimization and Decision Analysis
- Spatio-temporal Data Analysis
- Software Development & Project Management
- HCI & Information Visualization
- Distributed Computing

Participants' List

Family Name	First Name	University
Nababan	Erna Budhiarti	Universitas Sumatera Utara
Dehigaspiyage Don	Ananda Gamini	University of Sri Jayewardenepura
Songpan	Wararat	Khon Kaen University
Soomlek	Chitsutha	Khon Kaen University
WANCHAI	PAWEENA	Khon Kaen University
PULIHINGA MUDIYANSELAGE	PRABHATH CHAMINDA GUNATHILAKE	Peradeniya
Thantulage	Gishantha Indunil Fernando	University of Sri Jayewardenepura, Sri Lanka
SILVA	RAJITHA MINUSHA	University of Sri Jayewardenepura
Wickramarachchi	Darshana	Sri Jayewardenepura
PHETKAEW	THIMAPORN	Walailak University
Usoof	Tuan Muhamath Hakim Ali	University of Peradeniya
PINIDIYAARACHCHI	UDAKANATHTHAGE AMALKA JAYANTHI	University of Peradeniya
Abeyundara	Hemalika	University of Peradeniya
ABIDIN	TAUFIK	Universitas Syiah Kuala
SITOMPUL	OPIM SALIM	UNIVERSITAS SUMATERA UTARA
Dawood	Rahmad	Universitas Syiah Kuala
MAHYUDDIN	MAHYUDDIN	UNIVERSITAS SUMATERA UTARA
WATTANAPANICH	CHIRAWAT	WALAILAK UNIVERSITY
Sakphrom	Siraporn	Walailak University
Nasution	Mahyuddin	Universitas Sumatera Utara
Nababan	Esther Sorta Mauli	Universitas Sumatera Utara
Runtung Sitepu	Bin Nasip	Universitas Sumatera Utara
Emerson Pascawira	Sinulingga	Universitas Sumatera Utara
Psyllaki (ΨΥΛΛΑΚΗ)	Chrysoula (ΧΡΥΣΟΥΛΑ)	SKYBRIDGE
Prof. Gomes	Tiago	UMinho
Prof. Pinto	Sandro	UMinho
Bonsangue	Marcello	Leiden
Caubo	Esme	Leiden
Dailey	Matthew Nelson	AIT
Anutariya	Chutiporn	AIT
Esichaikul	Vatcharaporn	AIT
Stoupa	Elda (Eleni-Panagiota)	metropolitan college
Skiada	Marianna	AUEB
Fraidaki	Katerina	AUEB

Study Visit Program

Program "Visit Athens"		
Monday 4/11		Building Address
10:00- 10:30	Welcome	ACE- 46th Kefallinias, Str
10:30 - 11:45	Discussion about the stage of the project	ACE- 46th Kefallinias, Str
11:45- 12:00	Break	
12:00- 13:00	Presentation: Prof. D. Chatziantoniou- Director of MSc in Business Analytics (AUER)	ACE- 46th Kefallinias, Str
13:00- 14:00	Lunch	ACE- 46th Kefallinias, Str
14:00- 15:00	Presentation: As Prof. Louridas "Artificial Intelligence	ACE- 46th Kefallinias, Str
15:00- 15:10	Break	
15:10- 17:00	Workshop 1: DS&AI MSc Structure and Learning Outcomes	ACE- 46th Kefallinias, Str
18:00-	Dinner	
Tuesday 5/11		
10:00- 12:00	Workshop 2: Data Modeling & Management (DMM) and Business Intelligence & Analytics (BIA)	ACE- 46th Kefallinias, Str
12:00-15:00	Lecture: Business Intelligence (Prof. Chatziantoniou) / Game: Structure of the MSc	Evelpidon & Lefkados str
(14:00- 15:00)	Lunch	ACE- 46th Kefallinias, Str
15:15- 17:15	Workshop 3: Machine Learning	ACE- 46th Kefallinias, Str
Wednesday 6/11		
10:00- 11:30	Workshop 4: Artificial Intelligence	ACE- 46th Kefallinias, Str
11:30- 11:50	Break	
11:50- 13:00	Presentation: Administrative issues of the MSc	ACE- 46th Kefallinias, Str
13:00- 14:00	Lunch	
14:00- 15:00	Workshop: Quality Management	ACE- 46th Kefallinias, Str
15:00- 15:20	Break	

15:20- 17:00	Presentation: As. Prof. K. Pramataris "Business Analytics in Market"	ACE- 46th Kefallinias, Str
Thursday 7/11		
9:00- 12:00	Lecture: As. Prof. A. Poulymenakou "MIS"	Trias Building
12:00- 12:15	BREAK	
12:15- 13:15	LAB: A. Kostaki & A. Poulymenakou (SAP Presentation)	Trias Building
13:30- 14:30	Lunch	ACE- 46th Kefallinias, Str
14:30- 15:30	Presentation: As. Prof. G. Lekakos, Director of MSc Management Science and Technology "Data Analytics"	ACE- 46th Kefallinias, Str
15:30- 15:45	BREAK	
15:45- 17:45	Workshop: Training Courses	ACE- 46th Kefallinias, Str
17:45-18:00	BREAK	
18:00- 19:00	LAB: SAS (Mr. Zaras)	ACE- 46th Kefallinias, Str
Friday 8/11		
11:00 - 11:45	Presentation: Dr. C. Lazaris "The essentials parts of a Lab"	ACE- 46th Kefallinias, Str
11:45 - 12:00	Break	
12:00 -13:00	Presentation: As. Prof C. Bardaki "Research Projects based on IoT & BA"	ACE- 46th Kefallinias, Str
13:00 - 14:00	Lunch	ACE- 46th Kefallinias, Str
14:00- 16:00	Preparation workshop for Leiden	ACE- 46th Kefallinias, Str

Photos







Evaluation Form

Project Meeting / Event Quality Criteria

How satisfied are you?

1. with the preparations made to organize the meeting?

* Completely satisfied 93%

Satisfied 4% Neutral

3% Dissatisfied

Completely dissatisfied

2. with venue arrangements and accommodation?

* Completely satisfied 90%

Satisfied 8% Neutral

2% Dissatisfied

Completely dissatisfied

3. with support(meeting rooms, equipment) provided during the meeting?

* Completely satisfied 90%

Satisfied 7% Neutral

3% Dissatisfied

Completely dissatisfied

4. with the participation of projects partners in discussions and decision making? *

Completely satisfied 92%

Satisfied 4% Neutral

4% Dissatisfied

Completely dissatisfied

5. with the structure of the agenda (subjects / issues covered)? *

Completely satisfied 97%

Satisfied 2%

Neutral 1%

Dissatisfied

Completely dissatisfied

6. with the time assigned to the discussion of important issues?

* Completely satisfied 90%
Satisfied 4% Neutral
6% Dissatisfied
Completely dissatisfied

7. with the scope of information presented? *

Completely satisfied 95%
Satisfied 3%
Neutral 2%
Dissatisfied
Completely dissatisfied

8. with the meeting's overall value in helping you achieve project goals? *

Completely satisfied 97%
Satisfied 2% Neutral
1% Dissatisfied
Completely dissatisfied

9. with the quality of the overall meeting? *

Completely satisfied 97%
Satisfied 2%
Neutral 1%
Dissatisfied
Completely dissatisfied

10. What were the strengths of this meeting?

- Great Location (Athens)
Nice weather
Nice & Helpful Committee
- Pace of the meeting
- Nice weather
- We had a chance to discuss the important issues in person
we had a chance to meet with professors, students and lab instructors
- All the partners actively engaged in discussions. Environment was very friendly & welcome. Discussions were highly productive.
- Schedule was customized to our needs. We had simple time to discuss key deliverables
- Supportive staff. Guest speaker
- The hard work of organizers for trying their best to make the meeting more productive
- Participation of project partners give me a broaden understanding of the issue related to the development of the program

- Sharing information on developing the master program
Cooperation and coordination among HEI
Clearer insight on how the program will be delivered
Give a common courses(core) among the HEI
- Really help us in constructing core subjects of the curriculum . Content as well as syllabus
- We were able to get more information on how MSc, MBA programs are conducted in Athens, so that we can start our program with information gained from them
- Many deliverables are done
- Networking with all partner institutes.
Discussing and working collaboratively with other partners
Achieving the meeting outcomes as expected
- Meetings were conducted in a very friendly environment
Very good experience to work with people from various countries
- good presentation and managed all micro level services motivated to participate
- able to develop and improve the curriculum of DS&AI program
able to identify core & elective course units of the program
- very good cooperation

11. What were the weaknesses of this meeting?

- Time Management and scheduling
- Rest rooms were not quite as expected and were used by many people
- Presentation by AUEB & Systems used by AUEB are impressive but questionable to be implemented in home institution.
- Limited time to discuss some issues
- Various venues for the meeting
- Limited time to discuss some issues (syllaby of the course)
- Some / various place for the meetings
- Limited time for discussion
- Communication lapses & delays in short times
- The invitation letters could have come sooner! Some partners participated less than others
- Over all the meeting is actually perfect .It would be better if we, the participants, received the material of presentation beforehand.
- The meeting was begun at 10 o 'clock and finish late in the afternoon. It would be better if it is beginning earlier and finish earlier
- Difficult to have active participation from anyone
- Some participants have different expertise/background in the discussion group, it is difficult to get opinions /participation from anyone
- were there any weaknesses? I could not find any

