ESTABLISHING MODERN MASTER-LEVEL STUDIES IN INFORMATION SYSTEMS

561592-EPP-1-2015-1-FR-EPPKA2-CBHE-JP

WP 4. QUALITY PLAN

Outcome 4.2. Quality Internal Reports

Information System Master Course evaluation report (peer review)

Title of the course   **Enterprise Architecture Management**

Evaluator & University   **University of Münster – Jens Brunk**

1. The relevance of the course content to programme & course Learning Outcomes

   The course content and learning outcomes of the course are highly relevant to the overall programme. With the last topics of the course (6 – 10) it embeds the content nicely into the overall structure of the programme.

2. Balance between the theory and practice

   There seems to be a good balance between theory and practice. For Enterprise Architecture Management (EAM) some basics need to be taught in class, before they can be applied in practical tools. The planned Lab-Activities in combination with the mentioned de-facto standard tools for EAM teaching connect well to the theoretical part.

3. References (including books in English, papers)

   Nothing to add.

4. Teaching methods

   The course content and learning outcomes of the course are highly relevant to the overall programme. With the last topics of the course (6 – 10) it embeds the content nicely into the overall structure of the programme.

5. The course Assessment in terms of how it effectively judges participants' achievement of learning outcomes

   The assessment is split into class participation (30%), lab works (30%) and project team work (40%). This is a good distribution and encourages the students to get involved into the class and practical work.

6. Specialized facilities and/or equipment essential for the delivery of the course

Students will need to have access to computers that run the mentioned software tools. If it is common to have private PCs or laptops, then this should not be an issue, however having computer pools that make the software available to everyone is a nice plus.

7. Other

Generally, the course description is still on a very high level. The content that is currently included sets the right direction. However, detailed content related feedback will only be possible once the actual lectures and exercises are prepared.

Information System Master Course evaluation report (peer review)

Title of the course

Enterprise Architecture Management

Evaluator & University

University of Agder, Norway (P6)

Associate Professor Eli Hustad

PhD student Anne Kristin Ajer (focusing on EAM in her PhD work). She has suggested literature sources.

1. The relevance of the course content to programme & course Learning Outcomes

Focus on EAM is important as a part of a master programme in IS.

2. Balance between the theory and practice

A good balance between theory and practice - lab exercises are included.

3. References (including books in English, papers)

- The book by *Ross et. al.* – good that you have included, - is very important to get the "basic" for EAM. Sometimes this book is good to be used together with *Bernard, S.A. 2012. An Introduction to Enterprise Architecture, (3rd Edition ed.). Bloomington IN, United States: AuthorHouse*. Some master courses use Bernhard as an intro and continue with Ross in the next course.
- Can also recommend some chapters from the book «*Coherency Management. Gary Doucet, John Gøtze, Pallab Saha, and Scott Bernard. AuthorHouse Inc., Bloomington, IL. ISBN 978-1-4389-9606-6*», it has several chapters of EAM – also on auditing.
- A classic reading on benefits of EA is: Tamm, T. S., Peter B.; Shanks, Graeme; and Reynolds, Peter (2011). "How Does Enterprise Architecture Add Value to Organisations?" Communications of the Association for Information Systems Vol. 28, Article 10.

- A reference that provides an good overview is: Buckl, S., et al. (2009). "State of the art in enterprise architecture management 2009," Technische Universität München."
- One favorite is the paper by: Loehe, J. and C. Legner (2012). From Enterprise Modelling to Architecture-Driven IT Management? A Design Theory. ECIS conference.
- In this paper, Robert Winter is co-author, and is one of the names within EAM, the same with Aier. May be a bit too theoretical at master level? Aier, S., et al. (2011). Understanding enterprise architecture management design-an empirical analysis. 10th International Conference on Wirtschaftsinformatik, Zurich, Switzerland, alexandria.unisg.ch
- We will also recommend one paper by some Norwegian professor working at the University of Oslo (UiO). The paper has some very good highlights: Bygstad, B., and Hanseth, O. 2016. "Governing E-Health Infrastructures: Dealing with Tensions," in Proceedings of the International Conference on Information Systems, Dublin, Ireland, pp. 1-19.

4. Teaching methods

The teaching methods include a variety of pedagogical means – both lab and lectures, case discussions etc.

5. The course Assessment in terms of how it effectively judges participants' achievement of learning outcomes

Project work, presentations. The project work can be described more. Will it be in teams or individual work?

The specific learning goals for EAM are well established (table 5)
The specific learning goals are well aligned with the overarching learning goals for the program (table 6). In total, a very thoroughly and detailed description.

6. Specialized facilities and/or equipment essential for the delivery of the course

EA software, frameworks and tools for design.

7. Other

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Subject: Comments on Core Courses - **Enterprise Architecture Management**

General remarks:

- There are some minor typos in the text to be resolved
- For all courses, we recommend that each assessment method should have a success/pass percentage. A negative grade of any assessment method means that a student has failed the course.
- Many documents include data related to other courses and competences of the whole programme. We suggest that this element should be moved into a single separate document to ease corrections, and increase clarity.
- The description of courses is not unified (e.g. learning outcomes in ISS course has different structure)

Remarks on individual core courses:

Enterprise Architecture Management

- There are missing parts of the document therefore the course was not reviewed.

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Maribor, 27. 10. 2017

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Subject: Comments on Core Courses - **Innovation and Entrepreneurship**

General remarks:

- There are some minor typos in the text to be resolved
- For all courses, we recommend that each assessment method should have a success/pass percentage. A negative grade of any assessment method means that a student has failed the course.
- Many documents include data related to other courses and competences of the whole programme. We suggest that this element should be moved into a single separate document to ease corrections, and increase clarity.
- The description of courses is not unified (e.g. learning outcomes in ISS course has different structure)

Remarks on individual core courses:

Innovation and Entrepreneurship

- Missing topic on Business model design and innovation.
- Recommended references:
  - A. Osterwalder and Y. Pigneur (2010). Business model generation.
  - A. Osterwalder and Y. Pigneur (2014). Value proposition design.

Information System Master Course evaluation report (peer review)

Title of the course: **Innovation And Enterpreneurship**
Evaluator & University: **Pierfranco Ravotto, AICA**

Preamble

I have to make two premises:

1. our organization is not a university but an association of IT professionals,
2. I have a long teaching experience but not at university, but in upper secondary schools.

Consequently, the following considerations are formulated without a direct knowledge of the university system and practices.

1. The relevance of the course content to programme & course Learning Outcomes

The term Innovation is very comprehensive and therefore can also include the aspects to which I refer in the following lines, but to me it seems appropriate to highlight in the learning outcomes:

• the Cloud and the mobile applications,
• the Internet of things,
• the Big data and the Open data,
• the Open source,
• the Sharing economy,
• the Industry 4.0,
• the Business intelligence.

They match with IE1, IE4, IE6, IE8 and IE9.

I don't know if they all can be considered in Topic 1 or if they require other topics (Table 7).

2. Balance between the theory and practice

Sorry, but there are not sufficient elements to give the answer.

3. References (including books in English, papers)

Sorry, I have no no suggestions.

4. Teaching methods

I propose that the lessons be made interactive with the use of software tools that allow quick and instant surveys, collection of opinions and ideas, brainstorming, … (for example: Kahoot!, Google forms, Padlet, Mentimeter, Nearpod, …).

Flipped classroom methodology could be useful.

Project work is necessary for the development of business ideas and business plan.

5. The course Assessment in terms of how it effectively judges participants' achievement of learning outcomes

It's not my field, but the assessment methods, criteria and regime sound

OK.

6. Specialized facilities and/or equipment essential for the delivery of the course

Web app like Kahoot!, Google forms, Padlet, Mentimeter, Nearpod, …, Google Drive, Mindmap or Xmind or Coggle or similar, tools for videotutorials, tools for video-chat (Hangout, Skype, …), blogs, tools for simulation, presentation, …

7. Other

The first 13 pages appear to be the description of the entire master. I suggest that they be moved to a separate introductory document and that only what concerns this specific course remains here.

Information System Master Course evaluation report (peer review)

Title of the course: **Data Bases and Data Warehouses**

Evaluator & University: Tommaso Federici – LUISS University, Rome, Italy

Preliminary note:

> Most probably, because I'm missing some passage of the process carried on so far, or some already shared choice, it seems to me that there are several issues in terms of mapping of competencies and programme outcomes, lack of information, and consistency throughout the programme document. Please have a look at the file with my revisions and comment. Accordingly, my evaluations here below are preliminary and not thorough, until the above point is solved.

1. The relevance of the course content to programme & course Learning Outcomes
   Chosen contents are in general relevant, but please see my proposed changes and comments on tables 3, 5, 6.
2. Balance between the theory and practice
   Hard to say: please see my comments on tables: Relevant work and 7
3. References (including books in English, papers)
   No issue here
4. Teaching methods
   Hard to evaluate: they are not enough specified. Moreover, it is totally unclear what the laboratory is intended for
5. The course Assessment in terms of how it effectively judges participants' achievement of learning outcomes
   At this level of detail, it is fine with me, but possibly some more detail will be useful
6. Specialized facilities and/or equipment essential for the delivery of the course
   Not enough information at this regard
7. Other

Information System Master Course evaluation report (peer review)

Title of the course: **Innovation and Entrepreneurship**

Evaluator & University: Tommaso Federici – LUISS University, Rome, Italy

Preliminary note:

> Most probably, because I'm missing some passage of the process carried on so far, or some already shared choice, it seems to me that there are several issues in terms of mapping of competencies and programme outcomes, lack of information, and consistency throughout the programme document. Please have a look at the file with my revisions and comment. Accordingly, my evaluations here below are preliminary and not thorough, until the above point is solved.

1. The relevance of the course content to programme & course Learning Outcomes
   The identified contents are in general relevant, but please see my proposed changes and comments on tables 3, 5, 6. Moreover, I would suggest introducing at least a class on decision theory, to support the decision making process and the creation of favorable conditions for ideas' development
2. Balance between the theory and practice
   Hard to say, because figures about the two sides are not showed, and theory misses in table 7.
3. References (including books in English, papers)

4. Teaching methods
   Only sketched, but flipped classroom (even if really demanding in terms of preparation) is highly effective in this domain. Also group's projects are effective.
5. The course Assessment in terms of how it effectively judges participants' achievement of learning outcomes
   I agree to give a single grade to group project work. It's unclear what follows (I've got a method proposal)
6. Specialized facilities and/or equipment essential for the delivery of the course
   Not enough information at this regard
7. Other

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Information System Master Course evaluation report (peer review)

Title of the course: **Management of IS Projects**

Evaluator & University: Tommaso Federici – LUISS University, Rome, Italy

Preliminary note:

Most probably, because I'm missing some passage of the process carried on so far, or some already shared choice, it seems to me that there are several issues in terms of mapping of competencies and programme outcomes, lack of information, and consistency throughout the programme document. Please have a look at the file with my revisions and comment. Accordingly, my evaluations here below are preliminary and not thorough, until the above point is solved.

1. The relevance of the course content to programme & course Learning Outcomes
   The pointed out contents are relevant, but please see my proposed changes and comments on tables 3 and 6. I would also suggest reinforcing the practice on Agile PM and related tools as an alternative to hard PM (see comments). If we agree on all these changes, we should accordingly proceed with table 5 and 6.

2. Balance between the theory and practice
   The balance between theory and practice is unclear, because the two components are not well identified and we have no figure about this. However, I would encourage to reinforce group activity, while I see only individual one cited (please see my comments on document)

3. References (including books in English, papers)
   A couple of references added.

4. Teaching methods
   I do approve the use of web-based tools, only it is unclear to me if a groupwork is present or not: this is a great experience for students

5. The course Assessment in terms of how it effectively judges participants' achievement of learning outcomes
   I see here only individual and no group activity (maybe there are, but I don't see them), which is a bit contradictory with a project management course

6. Specialized facilities and/or equipment essential for the delivery of the course
   Nothing reported in the document a this regard

7. Other

Information System Master Course evaluation report (peer review)

Title of the course: **Projects IS Development and Deployment**

Evaluator & University: Tommaso Federici – LUISS University, Rome, Italy

Preliminary note:

Most probably, because I'm missing some passage of the process carried on so far, or some already shared choice, it seems to me that there are several issues in terms of mapping of competencies and programme outcomes, lack of information, and consistency throughout the programme document. Please have a look at the file with my revisions and comment. Accordingly, my evaluations here below are preliminary and not thorough, until the above point is solved.

1. The relevance of the course content to programme & course Learning Outcomes

   Chosen contents are in general relevant, but please see my proposed changes and comments on tables 3, and if agreed, accordingly proceed with table 5 and 6

2. Balance between the theory and practice

   The balance between theory and practice is unclear, because the two components are not well identified and we have no figure about this.

3. References (including books in English, papers)

4. Teaching methods

   No problem with web-based sessions, only it is unclear if the whole course will be delivered this way.

5. The course Assessment in terms of how it effectively judges participants' achievement of learning outcomes

   No problem here

6. Specialized facilities and/or equipment essential for the delivery of the course

   Nothing reported in the document a this regard

7. Other

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60 let študija organizacijskih ved v Kranju

Maribor, 27. 10. 2017

MASTIS

Subject: Comments on Core Courses - **Information System Development and Deployment**

General remarks:

- There are some minor typos in the text to be resolved
- For all courses, we recommend that each assessment method should have a success/pass percentage. A negative grade of any assessment method means that a student has failed the course.
- Many documents include data related to other courses and competences of the whole programme. We suggest that this element should be moved into a single separate document to ease corrections, and increase clarity.
- The description of courses is not unified (e.g. learning outcomes in ISS course has different structure)

Remarks on individual core courses:

Information System Development and Deployment

- Considering 25 students, all the presence hours are filled with presentations and no time would be left for any lectures.
- Students (independent study) time to write 40 pages of case studies in 98 hours is too short (or too demanding)
- Practical component and Learning objectives are not aligned (e.g. using Java to learn ERP)?
- Topics are to broad, some topics overlap with other courses (Data Bases and Data Warehouses)
- Are all modules obligatory in 54 hours or is a student obliged to select one module? Some modules are not aligned with the course topic.
- Instead of particular tools (e.g. Enterprise Architect), the approach should be proposed.
- Too few references are newer than 2010.
- Exam and case study at the Relevant Work are not consistent with the assignment brief at the end of the document.

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Subject: Comments on Core Courses - **Fundamentals of IT Security**

General remarks:

- There are some minor typos in the text to be resolved
- For all courses, we recommend that each assessment method should have a success/pass percentage. A negative grade of any assessment method means that a student has failed the course.
- Many documents include data related to other courses and competences of the whole programme. We suggest that this element should be moved into a single separate document to ease corrections, and increase clarity.
- The description of courses is not unified (e.g. learning outcomes in ISS course has different structure)

Remarks on individual core courses:

Fundamentals of IT Security

Recommendation for the required reading:

Bernik, I. (2016). Cybercrime and Cyber Warfare. J. Wiley and Sons.

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Subject: Comments on Core Courses - **Information System Strategy**

General remarks:

- There are some minor typos in the text to be resolved
- For all courses, we recommend that each assessment method should have a success/pass percentage. A negative grade of any assessment method means that a student has failed the course.
- Many documents include data related to other courses and competences of the whole programme. We suggest that this element should be moved into a single separate document to ease corrections, and increase clarity.
- The description of courses is not unified (e.g. learning outcomes in ISS course has different structure)

Remarks on individual core courses:

Information System Strategy

- Topic 1: we propose a change of title: Role of IS and technologies for organizations.

Information System Master Course evaluation report (peer review)

Title of the course

Information systems strategy

Evaluator & University

University of Agder, Norway (P6)

Associate Professor Eli Hustad

1. The relevance of the course content to programme & course Learning Outcomes

We think you have done a good job in describing the learning outcomes. May be the course is too ambitious and tries to go into too many different areas of IS strategy? It is only 5 ECTS, may you can think of focusing on fewer key topics, still the course will be interesting.
I think the topic "IS strategy and Governance" is most important.
Then "innovation, Organizational Change and Entrepreneurship". "IS Management and Operations" might be better to have in the course "Managing IS projects".

2. Balance between the theory and practice

3. References (including books in English, papers)

You have several good literature resources recommended. Here are some suggested literature resources that might be useful as well:

- Mintzberg, H. (1987). The Strategy Concept I: Five Ps for Strategy. California Management Review, 30(1), 11-24.
- Chen, D. Q., Mocker, M., Preston, D. S., & Teubner, A. (2010). Information Systems Strategy: Reconceptualization, Measurement, and Implications. MIS Quarterly, 34(2), 233-259.
- Chan, Y. E., & Reich, B. H. (2007). IT Alignment: What Have We Learned? Journal of Information Technology, 22(4), 297-315. -

- Bharadwaj, A., El Sawy, O. A., Pavlou, P. A., & Venkatmaran, N. (2013). Digital Business Strategy: Toward a Next Generation of Insights. MIS Quarterly, 37(2), 471-482. -

- Aurik, J., Fabel, M., & Jonk, G. (2014). The History of Strategy and Its Future Prospects.
- Kappelman, L., McLean, E., Johnson, V., Torres, R., Nguyen, Q., Maurer, C., & Snyder, M. (2017). The 2016 SIM IT Issues and Trends Study. MIS Quarterly Executive, 16(1), 47-80.

Suggested discussion papers

- Andriole, S. J. (2015). Who owns IT?. *Communications of the ACM*, 58, No. 3, pp. 50-57
- Hansen, A.M., Kraemmergaard, P. and Mathiassen, L. (2011) «Rapid Adaptation in Digital Transformation: A Participatory Process for Engaging IS and Business Leaders", *MIS Quarterly Executive*, Vol 10,No. 4, pp. 175-185
- Horne and Foster (2013) IT Governance is Killing Innovation, *Harvard Business Review, pp. 1-4*
- Tallon, P. P., Short, J. E., & Harkins, M. W. (2013). The Evolution of Information Governance at Intel. MIS Quarterly Executive, 12(4), 189-198.

4. Teaching methods

Your planned teaching methods have a lot of variation including both individual and team work from the students.

5. The course Assessment in terms of how it effectively judges participants' achievement of learning outcomes

Ok. A combination of participation in class with presentations, project work and individual exam. The "Living Case" can be explained more.

6. Specialized facilities and/or equipment essential for the delivery of the course

Need access to Moodle platform, video equipment.

7. Other

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Maribor, 27. 10. 2017

MASTIS

Subject: Comments on Core Courses - **IT Infrastructure**

General remarks:

- There are some minor typos in the text to be resolved
- For all courses, we recommend that each assessment method should have a success/pass percentage. A negative grade of any assessment method means that a student has failed the course.
- Many documents include data related to other courses and competences of the whole programme. We suggest that this element should be moved into a single separate document to ease corrections, and increase clarity.
- The description of courses is not unified (e.g. learning outcomes in ISS course has different structure)

Remarks on individual core courses:

IT Infrastructure

- We question the duration of written exam because for proposed hours lectures and tutorials (40), this is a rather high percentage.
- Students (independent study) time to write 40 pages of case studies in 110 hours is too short (or too demanding)
- The topic of critical analysis of new emerging technologies is advisable to add.
- In general there are too many items of references, we suggest leaving out the old ones because it does not show the contemporarily of course.

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Maribor, 27. 10. 2017

MASTIS

Subject: Comments on Core Courses - **Management of IS Projects**

General remarks:

- There are some minor typos in the text to be resolved
- For all courses, we recommend that each assessment method should have a success/pass percentage. A negative grade of any assessment method means that a student has failed the course.
- Many documents include data related to other courses and competences of the whole programme. We suggest that this element should be moved into a single separate document to ease corrections, and increase clarity.
- The description of courses is not unified (e.g. learning outcomes in ISS course has different structure)

Remarks on individual core courses:

Management of IS Projects

- We question the duration of written exam because for proposed hours lectures and tutorials (40), this is a rather high percentage.
- Students (independent study) time to write 40 pages of case studies in 110 hours is too short (or too demanding)
- Instead of particular software tools (e.g. MSProject), the approach should be proposed due to the frequent changes of tools.
- Some overlapping topics (IS Development and Deployment) should be examined in detail (Agile methods, Scrum …)
- 6.1 planning presses organisation – please clarify

Information System Master Course evaluation report (peer review)

Title of the course: **Management IS Projects**

Evaluator & University: **Pierfranco Ravotto, AICA**

Preamble

I have to make two premises:

1. our organization is not a university but an association of IT professionals,

2. I have a long teaching experience but not at university, but in upper secondary schools.

Consequently, the following considerations are formulated without a direct knowledge of the university system and practices.

1. The relevance of the course content to programme & course Learning Outcomes

Highly relevant. I just suggest to focus also

A. on Quality and on the connection between "Good enough" approach and Agile methodology,

B. on OpenSource development methodologies.

2. Balance between the theory and practice

It seems there is a good balance.

3. References (including books in English, papers)

Sorry, I have no no suggestions.

4. Teaching methods

I propose that the lessons be made interactive with the use of software tools that allow quick and instant surveys, collection of opinions and ideas, brainstorming, … (for example: Kahoot!, Google forms, Padlet, Mentimeter, Nearpod, …).

Flipped classroom methodology could be useful.

5. The course Assessment in terms of how it effectively judges participants' achievement of learning outcomes

In a course where the practical part and students' activities appear to be very important I suggest to give less importance do the final exam (from 60% to 50-40%) introducing if possible the individual or group development of a project plan.

6. Specialized facilities and/or equipment essential for the delivery of the course

Web app like Kahoot!, Google forms, Padlet, Mentimeter, Nearpod, …, Google Drive, Mindmap or Xmind or Coggle or similar, tools for videotutorials, tools for video-chat (Hangout, Skype, …), blogs, tools for simulation, presentation, …

7. Other

The first 9 pages appear to be the description of the entire master. I suggest

that they be moved to a separate introductory document and that only what concerns this specific course remains here.

Information System Master Course evaluation report (peer review)

Title of the course   **Management of IS Projects**

Evaluator & University   **University of Münster – Jens Brunk**

1. The relevance of the course content to programme & course Learning Outcomes

   Highly relevant. Course learning outcomes are well defined and aligned with program goals.

   There seems to be a focus on Scrum as a methodology. However, there is not enough time to do multiple methodologies in depth and as it is the most prevalent, this is a valid way to approach it.

   Topic 6: Practical component pokerinonline.com is not a correct website. How is the "poker system" going to be used in the course?

2. Balance between the theory and practice

   The course is completely practice oriented. Concepts will be communicated in web-based sessions to students and assessment seems to be 100% on individual assignments.

   It would be a good idea to have a few central face to face sessions. Not all content is ideal for online presentation.

   E.g., it could be a good idea to have central presentations of the individual assignments (or group presentations) on-site and in-person.

   Other than that, it is a good idea to teach Project Management in a practice oriented way, as the content is not highly complex, but needs to be applied to understand it.

3. References (including books in English, papers)

   There is a new 6th edition of the PMBOK Guide available. The changes are not major, but this should be considered when developing the course content.

4. Teaching methods

   See above in 2).

5. The course Assessment in terms of how it effectively judges participants' achievement of learning outcomes

In the description, the sentence "The relative weight of Assignment Brief will be set at 100%" is unclear to me. Does it mean the individual assignments will make up 100% of the assessment? Because this is not in line with the division of final exam and case study previously presented in an earlier table.

I propose to include some group work or presentations (see 2) into the grading. It is a valuable lesson to present developed content in front of a group/class. This could make up between 10%-50% of the grade, dependent on the extent of the presentations/group work.

6. Specialized facilities and/or equipment essential for the delivery of the course

There needs to be a web-based platform for the online sessions, but this should not be a problem.

In case the course is highly built upon the PMBOK Guide, students should have easy access to the book of the Project Management Institute. Is this relevant for this course and if so, is access to the book given through the library, online tools or similar?

7. Other

If the course handles a significant part of the PMBOK content, it can be recognized as contact hours for PMI certifications. The most basic Certified Associate in Project Management (CAPM) needs 23 hours of project management education as prerequisite. You could supply your students with a specific certificate for the course, such that they can then get certified with PMI.

Generally, the course description is still on a very high level. The content that is currently included sets the right direction. However, detailed content related feedback will only be possible once the actual lectures and exercises are prepared.

MASTIS

Information System Master Course evaluation report (peer review)
Title of the course: Management of IS projects
Evaluator & University
University of Agder, P6, Eli Hustad
1. The relevance of the course content to Programme & course Learning Outcomes

The course content seems mostly relevant for the course learning outcomes. This will highly depend upon the content of course 2 "IS development and Deployment" in the program. For example, the Programme learning outcome "to be able to analyze, model, and evaluate organization's business processes from the perspective of information systems development" is likely to fit more into course 2 (IS dev and Deployment). The same is the case for "to be able to apply various methods of information systems design".
Regarding the Course learning outcome – ISPM1-8 – there are several outcomes here that also could fit nicely to course 2. E.g. ISPM2, ISPM5.
The focus on Agile methods, and Scrum models – can also be covered by course 2. This depends of course how these courses are designed and aligned.
The other topics are highly relevant for this course on Management of IS projects (Topic 1-2, 5, 6 and partly 7).
2. Balance between the theory and practice

The balance seems to be good.
3. References (including books in English, papers)

The references are related to the topics. The main course book is relevant and good.
We enclose our curriculum for our course in Management of IS projects at UiA (at the end of this document), in case our references can be useful for you.

We do not focus on Scrum and agile methods here – because these are focused in our course on "System development processes and methods".
4. Teaching methods

The teaching methods have variety which is good. The focus on teamwork is important.
5. The course Assessment in terms of how it effectively judges participants' achievement of learning outcomes

It is good to have a combination of individual written exam and project assignments to check that candidates have achieved the learning outcomes. The individual written exam is missing from the final part "assessment methods, criteria and regime".
6. Specialized facilities and/or equipment essential for the delivery of the course

Access to IS projects in companies would be beneficial; this will make realistic and good assignments for the students. This aim can be challenging to achieve, and virtual projects and environments created by the course responsible can also work well.
7. Other

Link to course description at UiA "Managing IS projects"
https://www.uia.no/en/studieplaner/topic/IS-407-1

Module 1: The fundamentals: key concepts, organization and processes	
Introduction to Project Management, Course Practicalities	A guide to the project management body of knowledge (2013), Chapter 1 Additional Readings Turner, J. R., & Müller, R. (2003). On the nature of the project as a temporary organization. International journal of project management, 21(1), 1-8.
IT Projects and the Organization: Organizational Influences, Governance Approaches	A guide to the project management body of knowledge (2013), Chapter 2 Additional Readings

	Weill, P., & Ross, J. (2005). A matrixed approach to designing IT governance. MIT Sloan Management Review, 46(2), 26. + Tiwana, A., & Kim, S. K. (2015). Discriminating IT governance. Information Systems Research, 26(4), 656-674. + Fonstad, N. O., & Robertson, D. (2006). Transforming a company, project by project: The IT engagement model. MIS Quarterly Executive, 5(1). + Setterstrom, A. J. (2016). IT Project Manager Decision-Making Authority: An Empirical Examination of Antecedents and Consequences. ICIS 2016, Dublin.
Project Management Processes and Project Integration Management	A guide to the project management body of knowledge (2013), Chapters 3 & 4 Additional Readings Little, T. (2005). Context-adaptive agility: managing complexity and uncertainty. IEEE software, 22(3), 28-35. + Kruchten, P. (2013). Contextualizing agile software development. Journal of Software: Evolution and Process, 25(4), 351-361. + Matta, N. F., & Ashkenas, R. N. (2003). Why good projects fail anyway. Harvard Business Review, 81(9), 109-116.

Module 2: The core triangle: scope, time and cost

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Project Scope and Time Management	A guide to the project management body of knowledge (2013), Chapters 5 & 6 Additional Readings Gary, L. (2005). Will Project Creep Cost You-or Create Value? Harvard Management Update, 3-5
Project Cost and Time Management (continued)	A guide to the project management body of knowledge (2013), Chapters 6 & 7

Module 3: Beyond the core: human resources, quality, risk and procurement

Project Human Resource Management	A guide to the project management body of knowledge (2013), Chapter 9 Additional Readings Katzenbach, J. R., & Smith, D. K. (2005). The discipline of teams. Harvard Business Review, 83(7), 162.
Project Quality Management	A guide to the project management body of knowledge (2013), Chapter 8

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Project Risk Management	A guide to the project management body of knowledge (2013), Chapter 11
	Additional Readings Klein, G. (2007). Performing a project premortem. Harvard Business Review, 85(9), 18-19.
Project Procurement Management	A guide to the project management body of knowledge (2013), Chapter 12

UiA's course "System development processes and methods" pays attention to agile methods and Scrum

https://www.uia.no/en/studieplaner/topic/IS-402-1?year=2017

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Subject: Comments on Core Courses - **Data Bases and Data Warehouses**

General remarks:

- There are some minor typos in the text to be resolved
- For all courses, we recommend that each assessment method should have a success/pass percentage. A negative grade of any assessment method means that a student has failed the course.
- Many documents include data related to other courses and competences of the whole programme. We suggest that this element should be moved into a single separate document to ease corrections, and increase clarity.
- The description of courses is not unified (e.g. learning outcomes in ISS course has different structure)

Remarks on individual core courses:

Data Bases and Data Warehouses

- We believe that the course includes too many broad topics for a single course with only 40 hours. Database fundamentals course should be a prerequisite course for the involvement in the course; therefore, the topics discussing this content could be left out.
- We propose that the exam includes practical exercises on computers.
- We question the duration of written exam because for proposed hours lectures and tutorials (40), this is a rather high percentage.
- Recommended reading should be updated with the references from the current decade.
- Exam and case study at the Relevant Work are not consistent with the assignment brief at the end of the document.

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Information System Master Course evaluation report (peer review)

Title of the course   : **Data Bases and Data Warehouses**

Evaluator & University: **Fadila Benatyeb, University of Lyon, Lyon 2**

1. The relevance of the course content to programme & course Learning Outcomes

We should find in the list of competences those related to Data warehouses: Complete the fifth competence (5) Integrating and preparing data captured from various sources for analytical use (which represents the ETL process) with the following additional competences.
- Designing and developing Decision Support Systems (DSS) in terms of data warehouse models, multidimensional modeling
- Analyzing data from the data warehouse with OLAP (On-Line Analytical Processing) analysis by using OLAP specialized softwares
- Constructing Data warehouses by applying ETL (Extract-Transform-Load) process and using the ETL tools and softwares

- In other words, we have to explicitly mention OLAP analysis whichs the foundation of data analysis of data warehouses

2. Balance between the theory and practice
   OK

3. References (including books in English, papers)

   References for Databases:
   - Database Systems: design, Implementation & management, February 4, 2014 by Carlos coronel and Steven Morris
   - Database Concepts (8th edition), January 23, 2017 by David M. Kronenke and David J. Auer

   References for Data Warehouses:

- The Data Warehouse Toolkit: The Definitive Guide to Dimensional Modeling, July 1, 2013 by Ralph Kimball and Margy Ross
- Agile Data Warehouse Design: Collaborative Dimensional Modeling, from Whiteboard to star schema, November 24, 2011 by Lawrence Corr and Jim Stagnitto
- Data Warehouse design: Modern Principles and Methodology, June 16, 2009 by Matteo Golfarelli and Stefano Rizzi
- OLAP Solutions: Building Multidimensional Information Systems, April 18, 2002 by Erik Thomsen

4. Teaching methods
Lectures in presence, Labs, Projects and home works: OK

5. The course Assessment in terms of how it effectively judges participants' achievement of learning outcomes
I did not find in the document a period where students should do Stage inside enterprises.

6. Specialized facilities and/or equipment essential for the delivery of the course
May be we can promote open sources softwares or free tools that students can utilize in their projects.

7. Other
This course is related to databases and data warehouses. Sometimes, we find the term "data mining techniques" (DBDW2). I am not sure that in 40 hours in presence, we can both teach databases and data warehouses and data mining techniques (may be this latter should be only introduced as belonging to data analysis techniques). Data mining is a whole course which needs more and more hours. Data mining should be a whole course which needs many hours.