# 804128 - BETMA4-M - Specialization Block in Applied Multimedia Technologies IV

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| Coordinating unit: | 804 - CITM - Image Processing and Multimedia Technology Centre |
| Teaching unit: | 804 - CITM - Image Processing and Multimedia Technology Centre |
| Academic year: | 2019 |
| Degree: | BACHELOR'S DEGREE IN MULTIMEDIA STUDIES (Syllabus 2009). (Teaching unit Optional) |
| ECTS credits: | 6          Teaching languages:   Catalan, Spanish, English |

## Teaching staff

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| Coordinator: | Boira Ricart, Oriol |

## Prior skills

Creative and communicative abilities.
Use of office, audiovisual and interactive creation tools.

## Requirements

Games and videogames culture, interactive entertainment industry.

## Degree competences to which the subject contributes

Specific:
5. (ENG) Analitzar l¿evolució i l¿estat de l¿art i identificar probables i/o desitjables escenaris futurs, de l¿aplicació de les tecnologies multimèdia als àmbits de: la formació, la salut, l¿oci o l¿entreteniment i els negocis i activitats professionals.
6. (ENG) Aplicar nous coneixements teòrics i pràctics, relacionats amb la creació de continguts i aplicacions interactives multimèdia orientades al seu ús als àmbits de: la formació, la salut, l¿oci o l¿entreteniment i els negocis i activitats professionals.
Transversal:
1. SELF-DIRECTED LEARNING. Detecting gaps in one's knowledge and overcoming them through critical self-appraisal. Choosing the best path for broadening one's knowledge.
2. EFFICIENT ORAL AND WRITTEN COMMUNICATION. Communicating verbally and in writing about learning outcomes, thought-building and decision-making. Taking part in debates about issues related to the own field of specialization.
3. SUSTAINABILITY AND SOCIAL COMMITMENT. Being aware of and understanding the complexity of social and economic phenomena that characterize the welfare society. Having the ability to relate welfare to globalization and sustainability. Being able to make a balanced use of techniques, technology, the economy and sustainability.
4. EFFECTIVE USE OF INFORMATION RESOURCES. Managing the acquisition, structure, analysis and display of information from the own field of specialization. Taking a critical stance with regard to the results obtained.

## Teaching methodology

Class sessions are divided into two bands of activity:

1. Descriptive part, in which the teacher explains new content, describes work materials, and answers questions from students.

2. Participatory part, in which students work, explain and discuss the exercises.

## Learning objectives of the subject

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- Show ability to design, evaluate and test the usability, accessibility and playability of GUIs game, as well as interactive products and services.

- Show knowledge of the standards and regulations relating to applications and systems, usability, accessibility, gameplay and method of user-centered design player

- Show understanding of the concept "game design" and other basic concepts involved and be able to design games using the documents and technological resources.

- Show understanding of the "human factor" concept, mechanisms and psychological processes involved and be able to apply this knowledge in the process of decision making in game design.

- Show understanding and mastery of the "Method of User Centered Design" and the procedures, techniques and technologies involved and be able to apply in the process of design and game development.

- Show understanding and acceptance of social commitment to the standards and guidelines, especially those related to accessibility and ability to adequately apply to each type of interactive application or game in the process of creating it.

- Show understanding of the elements of interactive storytelling in videogames and capacity in applying these methods and techniques in game development.

- Show knowledge of the relationship between "culture - society - game" and the relationship between the types and characteristics of video games with cultural and social characteristics of the society in which they occur and play. Be able to apply this knowledge in the analysis of video games.

- Using strategies for preparing and giving oral presentations and write texts and documents whose content is coherent, adequate structure and style and good spelling and grammatical errors.

- Communicate clearly and efficiently in oral and written presentations tailored to specific audiences and communication objectives and strategies + using appropriate means.

- Help strengthen the team by planning targets and working efficiently to favor communication, task assignment and cohesion.

- After identifying the different parts of an academic document and organizing references, designing and executing a good strategy for advanced searches using specialized information resources, selecting relevant information based on criteria of relevance and quality.

- Carry out the tasks based on the guidelines set by lecturers, deciding the time needed to complete each task, including personal contributions and expanding information sources.

- Applying the knowledge gained in completing a task according to its relevance and importance, deciding how to carry it out and the time to be devoted and selecting information sources most appropriate.

- Show sufficient reading comprehension in reading documents written in English, linked to the art, such as notes, scientific articles, popular articles, web pages, etc.

- Show knowledge and understanding of the different categories and types of board games, with the aim of identifying the most suitable for specific projects or assignments.

- Show ability to develop a proposal and design a prototype board game that can serve as a presentation of a larger project.

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- Show ability to identify the main existing recreational resources in board games, in order to implement and / or adapt to video game projects.

## Study load

| Total learning time: 150h | | | |
|---|---|---|---|
| | Hours large group: | 0h | 0.00% |
| | Hours medium group: | 60h | 40.00% |
| | Hours small group: | 0h | 0.00% |
| | Guided activities: | 0h | 0.00% |
| | Self study: | 90h | 60.00% |

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## Content

| Introduction to Game Design | Learning time: 4h |
| --- | --- |
| | Theory classes: 4h |

Description:
1. The Game Design discipline
2. The role of game designer
3. The creation process
4. Our strategy to create playful quality

Related activities:
 Research on the discipline, the process of creating and concepts related to quality.

Specific objectives:
 Put into context the discipline, the office, and work processes and learning.

| Game elements and framework | Learning time: 4h |
| --- | --- |
| | Theory classes: 4h |

Description:
1. Formal and abstract systems
2. Game elements
3. Frameworks
4. MDA framework

Related activities:
 Identification and classification of game elements.

Specific objectives:
 Recognize and analyze elements of play and meet and fall into designer frames.

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| Game Mechanics | Learning time: 12h |
| --- | --- |
| | Theory classes: 12h |

Description:
1. Main mechanics
2. Rules
3. Particular mechanics
4. Connected mechanics
5. Mechanics and controls
6. Mechanics and player
7. Contingences
8. Sequence of events

Related activities:
Analysis of different types of mechanics.
Creation and justification of mechanics.
Relationships between mechanics and other game elements.

Specific objectives:
Recognize, analyze, create and link game mechanics to create gameplay.

| Goals, rewards and modifiers | Learning time: 8h |
| --- | --- |
| | Theory classes: 8h |

Description:
1. Goals
2. Rewards
3. Triangulation
4. Modifiers
5. Time
6. Randomness, probability and uncertainty

Related activities:
Identification, analysis and classification of goals, rewards and modifiers.
Creating proposals and integration with playable contexts.

Specific objectives:
Recognize, analyze, create and relate starting pace.

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| The player | Learning time: 8h |
| --- | --- |
| | Theory classes: 8h |

Description:
1. Different experiences for different people
2. Inherent to human condition
3. Consubstantial to culture
4. Learning and progression
5. Self-Determination Theory
6. Perception of welfare and happiness levels
7. Brain, emotion, behaviors
8. Survival, pleasure, pain
9. Mental models
10. Patterns
11. Bartle Test, User Types Hexad, Big Five Model

Related activities:
 Identifying motivator elements and their corresponding feedback with people.
 Identifying and creating activity patterns. Relations with different personality traits.

Specific objectives:
 Knowing the characteristics of the players to optimize gaming systems.

| Dynamics and game flow | Learning time: 12h |
| --- | --- |
| | Theory classes: 12h |

Description:
1. Magic circle
2. Play as activity in time
3. Situations, decisions and actions
4. Fun
5. Game Flow
6. Game Loops
7. Curves of interest
8. Behaviors by conditioning
9. Motivation elements
10. Handling errors
11. Dynamics with objects
12. Puzzles

Related activities:
 Analysis and creation of situations, decisions and actions.
 Analysis and creation of activity flow and fun.
 Creating puzzles and integration with playable contexts.

Specific objectives:
 Recognize, analyze, create and dynamic linking.

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| Aesthetics and game-player communication | Learning time: 8h |
| --- | --- |
| | Theory classes: 8h |

Description:
1. Perception and neuroscience
2. Conceptual communication
3. Ludology and narratology
4. Linearity and non-linearity
5. Conditioning by environment
6. Characters' roles

Related activities:
Analysis of proposals and their integration with mechanics, concept and narrative.
Creating proposals, responding to criteria of content and gameplay.

Specific objectives:
Recognize, analyze, create and relate aesthetic elements for optimum game-player communication.

| Strategy, documentation and communication | Learning time: 4h |
| --- | --- |
| | Theory classes: 4h |

Description:
1. Creation and communication strategy
2. Traditional Game Design Document vs Wiki format

Related activities:
Creating a strategy and design document GDD.

Specific objectives:
Recognize, analyze and create strategies creation and documentation.

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## Planning of activities

| SESSION EXERCISES | Hours: 2h |
|---|---|
| | Theory classes: 2h |

Description:
  In this kind of exercises the studen makes analysis or creates being based on the teorical aspects that has learned, and also makes a document with his analysis or creation.

Support materials:
  - Statement sheets.
  - Explanations and resources given during the sessions.

Descriptions of the assignments due and their relation to the assessment:
  - Document deliveries in e-campus.

Specific objectives:
  Analysis, investigation, and critical comprehension.

| GAME JAMS | Hours: 4h |
|---|---|
| | Theory classes: 4h |

Description:
  In this exercises the student creates depending on specific contingences.

Support materials:
  - Statement sheets.
  - Explanations and resources given in the sessions.

Descriptions of the assignments due and their relation to the assessment:
  - Documents in the e-campus.

Specific objectives:
  Creation and documentation.

| GAME DESIGN DOCUMENT | Hours: 8h |
|---|---|
| | Theory classes: 8h |

Description:
  The student creates a Game Design Document with the formalization of a purposal.

Support materials:
  - Statement sheet.
  - Explanations and resources given in the sessions.

Descriptions of the assignments due and their relation to the assessment:
  - Documents by e-campus.

Specific objectives:
  Research, creativity and consistency of the purposals.

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## Qualification system

1. Exercises in each session. The sum of all will be a weighting of 20% of the grade for the course.

2. Practice, in "Jam" format. It will represent 25% of the grade for the course.

3. A final project. It will represent the 45% of the grade for the course.

4. The assessment of student participation in the training activities of matter, and learning attitude will be evaluated by monitoring their interventions. This assessment corresponds to 10% of the final grade.

## Regulations for carrying out activities

? Part of the exercises can be done in class with the subject teacher. Students must also devote time to self-employment (after hours) to complete the exercises.

? The exercises, once completed, must be returned to the Virtual Campus in the corresponding delivery and date thereof, shall be taken into account in assessing those delivered before 24 hours of the deadline.

? The evaluation of the exercises involves not only the judgment of the case, also it means the defense made of the results and the realization of relevant documents.

? Any incidents that do not help solve the exercise in the indicated time must be previously communicated to the teacher. Following this communication and depending on the causes for failure to submit the exercise, if justified, alternatives were found to complete the assessment. Also they consider justified reasons for non-submission of the exercises communicated to management studies

? The documents must be completed following the instructions, especially regarding file names. Proper management of the documentation is an aspect of desirable skills and part of the evaluation.

## Bibliography

Basic:

 Apunts de l'assignatura.

Thompson, J.; Berbank-Green, B.; Cusworth, N. The computer game design course: principles, practices and techniques for the aspiring game designer.  London: Thames & Hudson, 2007. ISBN 9780500286586.

DeMaria, Rusel; Wilson, Johnny L. High score!: la historia ilustrada de los videojuegos.  Madrid: McGraw-Hill, 2002. ISBN 8448137043.

Schell, Jesse. The art of game design: a book of lenses. 2nd ed. Amsterdam [etc.]: Elsevier/Morgan Kaufmann, 2015. ISBN 9781466598645.

Koster, Raph. A theory of fun for game design. 2nd ed. Sebastopol, United States of America: O'Reilly Media, 2013. ISBN 9781449363215.

Complementary:

Rabin, Steve (ed.). Introduction to game development.  Hingham, MA: Charles River Media, 2008. ISBN 9781584503774.

Others resources:

Universitat Politècnica de Catalunya