Universidad del Desarrollo
Universidad de Excelencia

Syllabus
Artificial Intelligence: The Rebellion of the Machines

A. General Information.

1. **Academic Unit**	Vicerrectoría de Pregrado					
2. **Career**	Science, Technology and Innovation Track					
3. **Code**	CTR20193					
4. **Curriculum location**	Bachillerato /Licenciatura					
5. **Credits**	8					
6. **Type of Class**	Mandatory		Elective	x	Optative	
7. **Duration**	Bimonthly		Semiannual	x	Annual	
8. **Weekly modules**	Theorical Classes	2	Practical Classes		Assistantship	
9. **Academic Hours**	Classes	68	Assistantship			
10. **Pre-requisite**	None					

B. Contribution to the Students' Profile.

Taking into consideration the changes in the social environment, mainly those that have to do with the global environment, diversity and the interdisciplinary view, the Universidad el Desarrollo has proposed to educate its students through an Educational Project that, together with a solid disciplinary training and in coherence with the needs of the labor market, develop in the students new skills, competences and knowledge that allow them to successfully face the professional scenario that awaits them at the end of their undergraduate training. In this context, the courses Track or thematic routes come up, whose objective is to contribute, through the extra disciplinary formation of the student, so that the student participates of experiences of learning more enriching that prepare them for a changing labor market.

The Artificial Intelligence: The Rebellion of the Machines course is part of the Science, Technology and Innovation Track and aims to deliver the general knowledge about Artificial Intelligence (AI) so that students can apply them in personal ventures or corporate projects. The student will be able to clearly communicate his project, based on methodologies for project presentation, project development and script development.

The skills to be developed are Entrepreneurship and Leadership, so that the student can integrate the content in their future growth as a professional and entrepreneur, to address the problems and challenges of the future through current technologies and innovations that will continue to develop and penetrate the market and everyday lives. The communication skill, so that they can effectively deliver the value proposal to a potential client, jury evaluator, investor or partner, shortening the current communication gap of technology-based projects.

C. Skills and General Learning Outcomes developed by the subject

Generic Skills	Learning Outcomes
Entrepreneurship and Leadership	Analyze personal or corporate ventures, based on Artificial Intelligence and technological tools available in the market through Project Based Learning. Apply communication skills, to transmit successfully, complex issues in terms of technology and development, through oral presentations.
Communication	

D. Content Units and Learning Outcomes

Content Units	Skill	Learning Outcomes
Unit I: Introduction to Artificial Intelligence (AI). 1. Course description, methodologies description. 2. What is Artificial Intelligence (AI). 3. Human vs Machine. 4. History and Principles of AI. 5. Types of AI.	*Entrepreneurship and Leadership*	Relate the applicability of AI for personal or corporate ventures, understanding the limitations. Identify main concepts of Artificial Intelligence, through bibliographic review. Reflect on the possibilities of using AI in personal or corporate ventures, through the study of real situations. Analyze the subject human vs machine, through oral presentations, practical examples and videos.
Unit II: Machine Learning 1. What is Machine Learning (ML). 2. Impact of ML. 3. Examples of ML. 4. Types of ML.	*Entrepreneurship and Leadership*	Analyze the reach of Machine Learning, and apply it in personal or corporate ventures, through classroom assessments with Gamification.

Unit III: Fields and Applications of AI. 1. State of the Art. 2. Industries which use AI. 3. Final Project Introduction.	*Entrepreneurship and Leadership, Communication*	Analyze the state of the art and the current developments of AI, together with the advances and real applications. Clearly exposes a topic of interest of AI, in a group presentation, considering its application in a final project, with methodologies for the presentation of enterprises.
Unit IV: Tools for AI. 1. Introduction to the Tools. 2. Tools ready to be displayed. 3. Development Tools. 4. Design, create and/or use AIs.	*Entrepreneurship and Leadership*	Design and/or Create solutions through technological tools that allow to develop an enterprise with AI, whether personal or corporate.
Unit V: Challenges and Industry. 1. Ethics and risks. 2. Growth of the AI industry. 3. The future of AI.	*Entrepreneurship and Leadership, Communication*	Reflect on the AI topics that are currently concerning and that should be considered in an entrepreneurship application or corporate project, through debate.
Unit VI: Final Project. 1. Definition and objective. 2. Development. 3. Delivery.	*Entrepreneurship and Leadership, Communication*	Communicates clearly his IA technological project oriented to present it in a project presentation format and a final Pitch in combination with a presentation.

E. Teaching Strategies.

- Multimedia content display.
- Research technologies through the internet.
- Discussion in classes of the contents treated.
- Oral presentation in classes by the students.
- Use of Gamification tools to asses.
- Development, Research and/or Application of AI technologies.
- Script methodologies and development of Presentations for Projects Pitch.

F. Assessment Strategies.

- Gamification tools for classroom assessments: Use of Kahoot tool, to make diagnostic evaluations and with marks during the classes.
- Presentation in classes: Oral presentations by students on AI topics.
- Group work: where the students will work collaboratively to carry out the research.
- Final project development: The student must make a final presentation in the field of research, development or application of AI technology, in Pitch format, together with a report.

G. Requisito de Asistencia:

The course includes a mandatory attendance requirement, which implies that a maximum of 6 absences will be allowed for all students, counted from the completion of the "Elimina-Agrega" process, which is indicated in the respective academic calendar. The student who does not fulfill this requirement will not be able to take the Final Exam, according to the "Reglamento Académico del Alumno Regular". In the case of students of "Carrera de Derecho", their maximum absence will be of 4 classes after the "Elimina-Agrega" process to the date established in the document "Procedimiento de Justificaciones de Inasistencia en Cursos Track para alumnos de Derecho".

H. Resources.

1. *http://www.notco.com*
2. *https://gizmodo.com/the-godfather-of-deep-learning-on-why-we-need-to-ensure-1831239688*
3. *https://www.tensorflow.org*
4. *https://www.microsoft.com/en-us/ai?activetab=pivot1%3aprimaryr5*
5. *https://www.forbes.com/sites/robertadams/2017/01/10/10-powerful-examples-of-artificial-intelligence-in-use-today/#545eeb63420d*
6. *https://www.forbes.com/sites/bernardmarr/2018/06/13/artificial-intelligence-the-clever-ways-video-games-are-used-to-train-ais/#51d016d09474*
7. *https://www.mckinsey.com/featured-insights/artificial-intelligence.*
8. *https://ai.google*