CIEE Global Institute – Sydney

Course name:	Gamification in Work and Play
Course number:	COMM 3102 SYAU
Programs offering course:	Open Campus
Open Campus Track:	Sustainability and Environmental Sciences
Language of instruction:	English
U.S. semester credits:	3
Contact hours:	45
Term:	Spring 2020

Course Description

Technology has changed the textual accommodations in the ways we work, rest and play. An exponential growth in the incorporation of gamification and game-like processes brings new ways of thinking about how society interacts and connects. In the Australian context, STEM approaches are pushing for innovative and creative ways in teaching and learning from the early years bringing a new wave of gamers and gaming processes into a futures focused society making waves for the need to understand and examine these approaches for work and play contexts. In this subject, students are introduced to theories of technology relating to interaction through gaming. They undertake critical comparative analysis of digital games to develop an understanding of how game design principles provide opportunities for engagement and participation in both virtual gaming playgrounds and non–game contexts. Students will examine and critically reflect on the accessibility and intercultural communication opportunities that gaming communities provide as well as the possible disconnects and social encumbrances this new wave of work and play may create. They will use methods of evaluating digital environments along the lines of aesthetics, usability and resource efficiency and be involved in considering a game-like track for a game or non–game context.

Learning Objectives

By completing this course, students will:

- Contrast and appraise the psychological theories and behavioural principles that underpin gamification.
- Justify and interpret gamification and gamification design employ design elements.
- Appraise modern gamification strategies, and their function within education, workplace and lifestyle.
- Practice, evaluate and revise practical skills in planning and applying gamification techniques.

Course Prerequisites

Students should have completed a level 2000 class in digital or new media.

Methods of Instruction

The course will be taught using lectures, presentations, and practical experiences. Classroom activities will involve group work and critical discussion groups considering and discussing key concepts. Invited guest speakers will add to the learning objectives of this course.

Assessment and Final Grade

1.	Presentation	15%
2.	Written Analysis	25%
3.	Creative Design Project	15%
4.	Gamification in Action: Group Project	25%
5.	Class participation	20%
	TOTAL:	100%

Course Requirements

Presentation

Students will be asked to conduct a 10-minute oral presentation comparing how a historical element or aspect of gamification has evolved or been updated for the modern era. Students can use a point in the "Infographic: History of Gamification" timeline (Turco, 2017) or choose another appropriate source. Students are to include a visual component (i.e. PowerPoint, Prezi) to accompany the oral presentation.

Written Analysis

Students will select THREE (3) elements of gamification of their choice (e.g. mechanics of gamification, player type) and discuss each of these in relation to one or more of the psychological theories presented. Students can select whichever elements and theories they wish with a total written analysis of 1875–words exactly.

Creative Design Project

By considering aspects of gamification design and the psychology of gamification, students will complete a creative design project, outlining a plan (or "pitch") for the development or implementation of a new gamification strategy – for education, workplace, lifestyle, marketing, or any other relevant field. This plan can be submitted in any format, limited only by appropriateness for the chosen topic, and student imagination!

The design project should clearly identify the product, the nature of the gamification strategy used, the audience/market, and the benefits to the user. The project will be 1125–words exactly.

Students' work will be graded on their ability to consider the best method of presenting the information they have chosen, e.g. developing a video to present a physical education game; a PowerPoint presentation to show plans for a new mathematics training phone app; a written plan for a workplace training strategy; a graphic-based brochure for a new consumer rewards program.

Gamification in Action: Group Project

In small groups, students will develop a gamified activity to help fellow students summarize the content of this course. This will be presented to the entire group in the final week of the course, and class members will provide their feedback via peer-assessment. The activity should include interactive gamification component (i.e. quiz questions, online survey/test, reward-based activity) that can be delivered during a 15–minute period. Students will be encouraged to work together to develop and present the activity.

Prior to this activity, the instructor will create groups and determine the number of activities to be presented (dependent on class numbers). Students will be marked on their research and content as a 750-word written component (10%), the presentation of the activity (15%), and a peer-assessment component of 375-words (5%).

Participation

Participation is valued as meaningful contribution to tangible learning, utilizing resources and materials as part of the course. Meaningful contribution requires students to be prepared in advance of each class session and to have regular attendance. Students must clearly demonstrate they have engaged with the materials as directed, for example, through classroom discussions, online discussion boards, peer-to-peer feedback (after presentations), interaction with guest speakers, and attentiveness on co-curricular and outside-of-classroom activities. Participation is NOT the same as attending.

Attendance Policy

Regular class attendance is required throughout the program, and all unexcused absences will result in a lower participation grade for any affected CIEE course. Due to the intensive schedules for Open Campus and Short Term programs, unexcused absences that constitute more than 10% of the total course will result in a written warning.

Students who transfer from one CIEE class to another during the add/drop period will not be considered absent from the first session(s) of their new class, provided they were marked present for the first session(s) of their original class. Otherwise, the absence(s) from the original class carry over to the new class and count against the grade in that class.

For CIEE classes, punctuation is critical to professional engagement in your studies. Students will be marked absent when 15-minutes or longer. Attendance policies also apply to any required co-curricular class excursion or event, as well as Internship, Service Learning or required field placement. Students who miss class for personal travel, including unforeseen delays that arise as a result of personal travel, will be marked as absent and unexcused. No make-up or re-sit opportunity will be provided.

Attendance policies also apply to any required class excursion, with the exception that some class excursions cannot accommodate. Students risk being marked as absent if they fail to be present at the appointed time.

Unexcused absences will lead to the following penalties:

Percentage of Total Course Hours Missed	*Equivalent Number of Open Campus Semester classes*	*Minimum Penalty*
Up to 10%	1 practical class, or up to 2 content classes	Participation graded as per class requirements
10 – 20%	2 practical classes, or 3-4 content classes	Participation graded as per class requirements; **written warning**
More than 20%	3 practical classes, or 5 content classes	Automatic **course failure**, and possible expulsion

Weekly Schedule

Week 1 **Orientation Week**

Class 1:1 **Introduction to Gamification**

This opening lecture will look at games vs. gamification, and how elements of games such as rules, feedback systems and goals have been applied to non-

gaming, educational contexts – forming the basis of this emerging subject area. Games and play are not new ideas, but gamification as an educational technology has recently developed as a new field within both science and education. Students will familiarize themselves with key concepts and begin to look at how gamification is evolving into many areas of education, work, and daily life. Focus will be on the recent "*Digital Australia 2018*" report that analyzes the data on gameplay in Australian culture and society.

Reading:
Brand, J. E., Todhunter, S. & Jervis, J. (2017). *Digital Australia 2018*. Eveleigh, NSW: IGEA. http://www.igea.net/wp-content/uploads/2017/07/Digital-Australia-2018-DA18-Final-1.pdf

Week 2

Class 2:1 **The Psychology of Gaming: Behaviour and Motivation**

In this lecture, the first of two looking at the psychology of gaming, students will learn about historic theories of behavior and behavioral change, including concepts such as operant conditioning and reward systems. Most current research into gamification is grounded in psychological theory, so this week will provide students with an overview how psychology drives behaviour, and how these concepts can be applied to, and impact, gamification and its use and design. Motivation is a key factor in gamification, whether this comes from internal (intrinsic motivation) or external (extrinsic motivation) sources. This class will look at self-determination theory and how game developers and gamification designers can use this to help them create products and services.

Readings:
Hughes, M., & Lacy, C. J. (2016). "The Sugar'd Game before Thee": Gamification revisited. *Portal: Libraries and the Academy, 16,* pp 311-326. https://digitalcommons.trinity.edu/cgi/viewcontent.cgi?referer=&httpsredir=1&article=1064&context=lib_faculty

Ryan, RM, Rigby, CS & Przybylski, A (2006). The Motivational Pull of Video Games: A Self-Determination Theory Approach. *Motivation and Emotion*, *30,* pp.347-363. https://selfdeterminationtheory.org/SDT/documents/2006_RyanRigbyPrzybylski_MandE.pdf

Video: The Skinner Box – How Games Condition People to Play More (Extra Credits), 13 Mar 2012 https://www.youtube.com/watch?v=tWtvrPTbQ_c

Class 2:2 **The Psychology of Gaming: Happiness and Flow**

In this lecture, the second looking at the psychology of gaming, students will learn about the mental state of "flow", a contemporary concept developed from historical psychological theories on behaviour and motivation. This class will draw heavily on the work of Mihaly Csikszentmihalyi and Martin Seligman, modern-day psychologists whose works have influenced the emerging field of positive psychology. Exploring theories of happiness, fun, skill and accomplishment, students will gain a greater understanding of how positive psychology influences gamification and its design.

Reading:
Sweetser, P. & Wyeth, P. (2005). GameFlow: A Model for Evaluating Player Enjoyment in Games, *ACM Computers in Entertainment, 3,* Article 3A, pp. 1-24, https://www.valuesatplay.org/wp-content/uploads/2007/09/sweetser.pdf
Video:
Mihaly Csikszentmihalyi: Flow, the Secret of Happiness (Authentic Happiness), 27 Sep 2013, https://www.youtube.com/watch?v=fajbN9dKNu8

Class 2:3 **The Evolution of Gamification**

This class will take a look through the history of gamification and how it has evolved with the advancements. Students will delve into gamification and its evolution from simple marketing strategies to its current uses across a variety of social and global settings. By looking at and researching examples of gamification, students will learn about how the concept of gamification has impacted on changed marketing and service strategies in a range of disciplines and environments.

Reading:
Huotari, K. & Hamari, J. (2017) A Definition for Gamification: Anchoring Gamification in the Service Marketing Literature, *Electron Markets*, *27*(1), pp.21-31. https://doi.org/10.1007/s12525-015-0212-z
Turco, K. (2017) Infographic: The History of Gamification, *Technology Advice*. Retrieved from: https://technologyadvice.com/blog/marketing/history-of-gamification-infographic/

Due Date for Submission of the Presentation Assessment

Week 3

Class 3:1 **Defining "Players"**

The psychology and elements of gamification combine to create a user-experience, and this class looks into who those users are. Over 30 years ago, Bartle's theories of "players" was developed to explain behaviour in online gaming and the theories now being applied to modern gamification practices – gaming for a purpose. Students will conduct a self-directed test to find out what type of player they are, and explore how this could influence their own personal experiences with gamification.

Reading:
González Mariño, J., Gallegos, M & Camacho-Cruz, H. (2018). Redesigning the Bartle Test of Gamer psychology for its application in gamification processes of learning. *Proceedings of the 12th International Multi-Conference on Society, Cybernetics and Informatics*, Orlando, FL. USA.
https://www.researchgate.net/publication/327033394/download

Resource: What kind of player are YOU? (2018) Signal Inc.
https://www.signalinc.com/gamification/

Class 3:2 **Elements of Gamification**

This lecture will look at the concept of gamification "elements". What are the mechanics and dynamics that make something a "game"? How do we distinguish between a "game" and "gamification"? Answering these questions through reading, lecture and group discussion will provide students with foundational knowledge that will assist them throughout the remainder of the course.

Reading:
Layth Khaleel, F., Ashaari, N., Tengku Wook, T. S. M. T. W., & Ismail, A. (2016). *Gamification Elements for Learning Applications,* Vol. 6, no. 6.
https://www.researchgate.net/publication/310830934_Gamification_Elements_for_Learning_Applications
Video:

Gamification to improve our world: Yu-kai Chou at TEDxLausanne (TEDx Talks), 26 Feb 2014, https://www.youtube.com/watch?v=v5Qjuegtiyc

Class 3:3 **Gamification for Education**

In this class, students will look at the many ways gamification is incorporated into education curriculums – from pre-school to tertiary institutes, from gifted to special needs programs, from arts to sciences, from Australia to the world over. While "star charts" and reward systems have been around for many years, as schools engage in STEM education more than ever, the focus has shifted to embrace digital and technological advances to create engaging and effective curriculum. Students will be encouraged to research global initiatives in gamified learning and compare and contrast how different countries and cultures value play and gaming in education.

Reading:
So, H. & Seo, M. (2018). A Systematic Literature Review of Game-Based Learning and Gamification Research in Asia: The synthesized findings and research gap. In K. Kennedy & J. Lee, International handbook of schools and schooling in Asia (pp. 396-418). New York: Routledge.
http://www.oapen.org/download?type=document&docid=648710

Video:
Steve Keil: A manifesto for play for Bulgaria and beyond (TEDxBG), January 2011, https://www.ted.com/talks/steve_keil_a_manifesto_for_play_for_bulgaria_and_beyond

Due Date for Submission of the Written Analysis Assessment

Week 4

Class 4:1 **Gamification in the Workplace**

Corporate training is utilizing gamification strategy more to measure performance and provide workplace education. This lecture will provide an overview of enterprise-based gamification, and the use of this to enhance productivity, drive information and feedback in the workplace, manage human resources, promote innovation, and corporate citizenship, along with traditional gamification strategies for education and training. A key area of discussion will be employee motivation and reward.

Reading:
Gaming and Social Tools. (2014). *Training Industry Magazine*, *7*(2), http://www.nxtbook.com/nxtbooks/trainingindustry/tiq_2014spring/#/0

Video:
5 Killer Examples on How Gamification in the Workplace is Reshaping Corporate Training (EIDesign), 18 October 2017.
https://www.youtube.com/watch?v=IpG7xXaf-nA

Class 4.2 **Gamification for Health and Wellbeing**

The use of gamification in the health industry is growing at a rapid rate. There are a multitude of phone apps, online sites, reward programs and products, aimed at gamifying the health experience. From wearable devices to in-house bonuses at local gyms, this class will analyze the impact of gamification on the health industry, not just for physical activity and exercise, but for mental health, disease management and medication tracking. The use of virtual reality for therapy, medical education and rehabilitation will also be explored. Students will be exposed to initiatives from around the world, and encouraged to identify and analyze similarities and differences in gamification for wellbeing across cultures.

Reading:
Sardi, L., Idri, A., & Fernandez-Aleman, J. L. (2017). A Systematic Review of Gamification in e-Health, *Journal of Biomedical Informatics*, *71*, pp.31-48.

Class 4:3 **Gamification for Commercialization**

Marketing and advertising is a whole industry developed from an understanding of how human psychology and behavior can be harnessed for commercial and economic goals. By looking at and researching examples of gamification, this class will delve into ethical and commercial issues that have impacted or changed marketing and service strategies in a range of everyday areas. Students will be encouraged to explore gamification relating to online dating, travel and tourism, interactive television, shopper loyalty programs and more.

Reading:
Xu, F., Buhalis, D. & Weber, J. (2017) Serious games and the gamification of tourism, *Tourism Management, 60,* pp.244-256.

https://s3.amazonaws.com/academia.edu.documents/51081406/GamificationTourism.pdf

Due Date for Submission of the Creative Design Project Assessment

Week 5

Class 5:1 **Gamification Design I: How to Gamify?**

Over three classes this week, students will learn design techniques, discuss gamification issues, and explore game development tools and resources to ultimately provide a framework for a hands-on gamification implementation experience. In this class, assignment groups will be assigned and students will be encouraged to work within these groups to begin planning to assist the completion of the major assignment. This class will have students considering principles of good game design using Yu-kai Chou's *Octalysis* [*from Week 3.2*] or other chosen method of game design.

Reading:
Morschheuser, B., Werder, K., Hamari, J. & Abe, J. (2017) How to Gamify? A Method for Designing Gamification. In Proceedings of the 50th Hawaii International Conference on System Sciences, pp.1298-1307.
https://people.uta.fi/~kljuham/2017-morschheuser_et_al-how_to_gamify.pdf

Resource:
Chou, Y. (2014), Octalysis Tool. http://yukaichou.com/octalysis-tool/

Class 5:2 **Gamification Design II: Tools and Resources**

From mobile gaming apps to interior design, gamification is moving towards the use of virtual reality (VR) and augmented reality (AR) to further enhance the user experience. These are at the advanced end of the gamification spectrum, but tool such as VR glasses and AR apps are gradually becoming more accessible to everyone and should be considered in modern game design. Of course, not all gamification is online or in a technological space so students will consider a range of tools and resources, including discussing how gamification can be applied in a non-technological space, using everyday equipment and some imagination!

For this class, students should have access to computers and/or devices connected to the internet, as some time will be allotted for students to "play"

with apps, software products and research websites. There will be hands-on exploration of the various tools and products readily available to assist in the development of gamified resources for education, work and beyond, including VR glasses.

Prescribed readings are not provided for this class, and students should instead conduct self-directed research of various tools and resources that will assist them in the delivery of their final assignment.

Class 5:3 **Gamification Design III: Considerations for Implementation**

In this class, students will consider design choices, and contemplate issues that could impact the delivery or implementation of gamification in their chosen setting. The instruction will lead a discussion around general issues that can impact game design and implementation such as: legal considerations for game design (e.g. country-specific laws and regulations); game design for social good (e.g. applying gamification to philanthropic causes); financial matters (e.g. provision of rewards, virtual economies), and access issues (e.g. barriers or limitations, digital literacy).

By now, students should have a plan for their major assignment, and will spend any remaining time during this lesson considering how the group will be delivering or presenting the information to the class. Any technological or equipment needs should be pre-planned and discussed with the instructor (i.e. projectors, tablets, butcher's paper etc.)

Reading:

Findlay, C. (2017). New Technology, Gamification and Future-Focused Education, *Journal of Initial Teacher Inquiry*, Vol. 3, pp.102-105.
https://ir.canterbury.ac.nz/bitstream/handle/10092/14621/Findlay%20Journal%20of%20Initial%20Teacher%20Inquiry_2017_PUBLISHED-26.pdf

Week 6

Class 6.1 **The Ethics of Gamification**

Virtual reality has provided significant positive outcomes for medical education, gamification has improved social contribution to charity, and schools and corporations have benefited from the positive motivational changes gamification brings to students and workers alike. However, there are other implications to

consider for health, socialization, and education. Here, the class will have a group discussion around the direction of gamification while learners will consider the benefits and challenges of this rapidly evolving area of technological advancement. Students will be encouraged to explore and share their own beliefs and opinions, and examine ethics of gamification and the pros and cons of a gamified future in the context of the provided video resources.

Video: Moving Forward – Games That Do Good (Extra Credits), 20 June 2013, https://www.youtube.com/watch?v=AW0o2PmmRXw
Video: Sesame Credit – The True Danger of Gamification (Extra Credits), 16 Dec 2015, https://www.youtube.com/watch?v=AW0o2PmmRXw
Video: Sight (Robot Genius), 24 July 2012, https://vimeo.com/46304267
Video: Virtual Reality Used To Treat Mental Health Problems (Journeyman Pictures), 4 July 2016, https://www.youtube.com/watch?v=5KIa3nNmMAc

Class 6.2 **Gamification in Action: Group Projects**

Student groups will present their final assignments – interactive gamified activities for the whole class to participate in. The instructor will provide a peer-assessment form for students to complete for each presentation.

Due Date for Submission of Group Project Assessment

Class 6:3 **Summary**

This lecture will summarize and consolidate the topics of the prior weeks, and provides students with an opportunity to ask questions about course content, and also to receive feedback on the major assignment. This class will also provide a final synopsis and opportunity for class discussion on many of the findings uncovered throughout the course. The final assessment, a presentation of a gamified course summary, will be delivered during this session.

Readings & Resources

Bartle, R. (1996). Hearts, Clubs, Diamonds, Spades: Players who suit MUDs. Journal of MUD Research, *1*(1), http://mud.co.uk/richard/hcds.htm

Cugelman, B. (2013). Gamification: What It Is and Why It Matters to Digital Health Behavior Change Developers. *JMIR Serious Games*, *1*(1), e3. http://doi.org/10.2196/games.3139

Fogarty, L. & Rajan, M. (2017). Leveraging the Power of Cartoons and Gamification to Boost Cultural Competence. *Thriving Abroad*, Louise Wiles, 11 Dec. 2017, www.thrivingabroad.com/leveraging-the-power-of-cartoons-and-gamification-to-boost-cultural-competence/

Follow the Foot (Games We Play), 16 Aug 2012, Accessed at: https://www.youtube.com/watch?v=1AJpKt6UP08&feature=youtu.be

Gabe Zichermann: The Future of Creativity and Innovation is Gamification (TEDx Talks), 25 Feb 2014, https://www.youtube.com/watch?v=ZZvRw71Slew

Game Design (Crash Course), 2 Sep 2016, https://www.youtube.com/watch?v=TOQTZ6N_eVg

Habitica, https://habitica.com/static/home

Lister, C., West, J. H., Cannon, B., Sax, T., & Brodegard, D. (2014). Just a Fad? Gamification in Health and Fitness Apps. *JMIR Serious Games*, *2*(2), e9. http://doi.org/10.2196/games.3413

Sailer, M. Hense, J., Mandl, H., & Klevers, M. (2013). Psychological Perspectives on Motivation through Gamification, Interaction Design and Architecture(s) Journal, vol. 19, pp.28-37. https://www.researchgate.net/profile/Michael_Sailer2/publication/278672057_Psychological_Perspectives_on_Motivation_through_Gamification/links/55827c3808ae12bde6e4c219/Psychological-Perspectives-on-Motivation-through-Gamification.pdf

Schuller, B., Dunwell I., Weninger, F., & Paletta, L. (2013). Serious Gaming for Behaviour Change – The State of Play, IEEE Pervasive Computing Magazine, Special Issue on Understanding and Changing Behaviour, *12*, pp. 48-55. https://www.researchgate.net/publication/260359169_Serious_Gaming_for_Behavior_Change_The_State_of_Play

Taylor, E. (2007) Dating-Simulation Games: Leisure and Gaming of Japanese Youth Culture. Southeast Review of Asian Studies, *29*, pp192-208. https://pdfs.semanticscholar.org/f789/057922bcbf331d205e6b68647e9b5fe1a42c.pdf

Tolks, D., Horstmann, D., Dadaczynski, K. & Paulus, P. (2018). The Wellbeing Game. How to Promote Wellbeing Using Gamification, Adaptation of a Gamified Web Application in German Context. In *Proceedings of the 6th International Conference on Serious Games and Applications for Health (IEEE SeGAH),* TU Wein, Vienna. https://www.researchgate.net/publication/325320089_The_Wellbeing_Game_How_to_promote_wellbeing_using_gamification_Adaptation_of_a_gamified_web_application_in_German_context

Werbach, K. & Hunter, D. (2012). For the Win: How Game Thinking Can Revolutionize your Business. Wharton Digital Press.