

Objectives of the Course

The aim of this course is to provide students with an understanding of the role and impact of technology in the tourism sector, to introduce innovative technological solutions for tourism businesses, to provide students with the ability to analyze current trends and to provide students with the ability to apply these technologies.

Course Contents

This course provides a comprehensive examination of the role and impact of technology in the tourism industry. Topics include digitalization, big data and data analytics, artificial intelligence and machine learning applications, Internet of Things (IoT), blockchain, augmented and virtual reality technologies, robotics, and automation. Students will evaluate the applications of these technologies within tourism businesses and their effects on customer experience, while also analyzing issues of sustainability, data security, and ethics. Throughout the course, theoretical knowledge will be reinforced through case studies, project work, and applied presentations.

Recommended or Required Reading

kitap, makale, internet kaynakları, ders notları

Planned Learning Activities and Teaching Methods

In this course, students will academically examine the use of technology in the tourism sector. The course will be conducted through lectures and class discussions, supported by readings and evaluations of recent academic articles. Students will select a research topic individually or in groups, conduct a scientific study, prepare a report, and present their findings. In this way, they will gain experience in research design, methodology, and academic writing, while developing the ability to analyze technological developments in tourism from a scientific perspective.

Recommended Optional Programme Components

For this course, students are expected to have a basic understanding of concepts related to tourism and technology, and to be willing to engage with current academic literature in English. Regular attendance, active participation in discussions, and timely completion of assigned research tasks are essential. Students are also encouraged to select topics aligned with their own interests and to focus on developing original scientific research.

Presentation Of Course

The course will be delivered face-to-face through lectures, discussions, article reviews, and student presentations.

Dersi Veren Öğretim Elemanları

Assoc. Prof. Dr. Eda Özgül Katlav

Program Outcomes

- 1. Explain the fundamental and current concepts of technology use in tourism and deepen this knowledge at an advanced level.
- 2. Critically evaluate recent academic literature and propose creative solutions.
- 3. Analyze the impacts of technologies used in tourism enterprises, considering sustainability and ethical dimensions
- 4. Design, conduct, evaluate, and report a technology-oriented research study using scientific methods
- 5. Report and present research findings in accordance with academic writing and presentation standards.
- 6. Relate technological developments to tourism policies and competitive strategies.
- 7. Carry out research studies independently or collaboratively in specialized fields.

Weekly Contents

Order	PreparationInfo	Laboratory	TeachingMethods	Theoretical	Practise
1	Review of course syllabus		Lecture, discussion	Introduction to the Course and the Relationship between Technology and Tourism	

Order	PreparationInfo	Laboratory	TeachingMethods	Theoretical	Practise
2	Buhalis, D. (2000). Tourism and information technologies: Past, present and future. <i>Tourism recreation research</i>, 25(1), 41-58. Xiang, Z. (2018). From digitization to the age of acceleration: On information technology and tourism. <i>Tourism management perspectives</i>, 25, 147-150. Gretzel, U., & Fesenmaier, D. R. (2009). Information technology: shaping the past, present and future of tourism. <i>The SAGE handbook of tourism studies</i>, 558-580. Atar, A. (2020). Gelenekselden dijital turizm sektörü. <i>Türk Turizm Araştırmaları Dergisi</i>, 4(2), 1640-1654. Deputat, M., Podolian, M., Zhupnyk, V., Terletska, K., & Gorishevskyy, P. (2024). Evolution of information systems and technologies in the hospitality and tourism sector: a historical perspective. <i>Multidisciplinary Science Journal</i>, 6. Üstüner, M., & Dilek, S. E. (2024). Turizm ve teknoloji ilişkisi: Uluslararası turizm dergilerindeki makalelere yönelik bibliyometrik bir değerlendirme. <i>Journal of Tourism Intelligence and Smartness</i>, 7(1), 36-50.		Lecture, discussion	Historical development of technology and its reflections on the tourism sector	
3	Buhalis, D. (2000). Trends in information technology and tourism. Bowen, J., & Whalen, E. (2017). Trends that are changing travel and tourism. <i>Worldwide Hospitality and Tourism Themes</i>, 9(6), 592-602. Suyunchaliyeva, M., Shedenova, N., Kazbekov, B., & Akhmetkaliyeva, S. (2020). Digital economy: Information technology and trends in tourism. In <i>E3S Web of Conferences</i> (Vol. 159, p. 04029). EDP Sciences. Pantano, E., & Stylidis, D. (2021). New technology and tourism industry innovation: evidence from audio-visual patented technologies. <i>Journal of Hospitality and Tourism Technology</i>, 12(4), 658-671. Costin, H., & Eslava, A. (2022). Emerging technology trends in hospitality and tourism. University of South Florida (USF) M3 Publishing, 17(9781732127593), 11. Asif, M., & Fazel, H. (2024). Digital technology in tourism: a bibliometric analysis of transformative trends and emerging research patterns. <i>Journal of Hospitality and Tourism Insights</i>, 7(3), 1615-1635.		Lecture, discussion	New technology trends in tourism	
4	da Costa Liberato, P. M., Alén-González, E., & de Azevedo Liberato, D. F. V. (2018). Digital technology in a smart tourist destination: the case of Porto. <i>Journal of Urban Technology</i>, 25(1), 75-97. Gretzel, U. (2022). The Smart DMO: A new step in the digital transformation of destination management organizations. <i>European Journal of Tourism Research</i>, 30, 3002-3002. Sonuç, N., & Süer, S. (2023). Smart tourism destinations and digitalization of cultural heritage for sustainability. In <i>Smart Cities for Sustainability</i> (Vol. 32, pp. 151-168). Emerald Publishing Limited. Kuchumov, A., Karpova, G., & Testina, Y. (2024). Smart destinations for advanced development of tourism. In <i>Digital Transformation: What are the Smart Cities Today?</i> (pp. 49-62). Cham: Springer Nature Switzerland. Cimbalevič, M., Stankov, U., & Pavluković, V. (2019). Going beyond the traditional destination competitiveness—reflections on a smart destination in the current research. <i>Current Issues in Tourism</i>, 22(20), 2472-2477. Sustacha, I., Banos-Pino, J. F., & Del Valle, E. (2023). The role of technology in enhancing the tourism experience in smart destinations: A meta-analysis. <i>Journal of Destination Marketing & Management</i>, 30, 100817.		Lecture, discussion, case study	Digitalization in Tourism and Smart Destinations	
5	Trip, D., & Badulescu, D. (2020, September). Touchless tourism: How new tourism will look like. In <i>Griffiths School of Management and IT Annual Conference on Business, Entrepreneurship and Ethics</i> (pp. 85-100). Cham: Springer International Publishing. Rahimizhian, S., & Irani, F. (2021). Contactless hospitality in a post-Covid-19 world. <i>International Hospitality Review</i>, 35(2), 293-304. Hao, F., & Chon, K. K. S. (2022). Contactless service in hospitality: bridging customer equity, experience, delight, satisfaction, and trust. <i>International Journal of Contemporary Hospitality Management</i>, 34(1), 113-134. Ku, E. C. (2025). Embracing the future of interactive marketing with contactless technology: evidence from tourism businesses. <i>Journal of Research in Interactive Marketing</i>, 19(4), 630-650. Rathjens, B., Gunden, N., Zhang, L., Jain, G., & Law, R. (2025). A systematic review of contactless technologies research in hospitality and tourism during the COVID-Pandemic. <i>Journal of Hospitality & Tourism Research</i>, 49(2), 351-365.		Lecture, discussion, case study, article review	Contactless services and solutions in tourism	

Order	PreparationInfo	Laboratory	TeachingMethods	Theoretical	Practise
6	Babu, S., & Subramoniam, S. (2016). Tourism management in internet of things era. <i>Journal of Information Technology & Economic Development</i> , 7(1). Car, T., Stifanich, L. P., & Šimunić, M. (2019). Internet of things (iot) in tourism and hospitality: Opportunities and challenges. <i>Tourism in South East Europe</i> , 5(3), 163-175. Wang, W., Kumar, N., Chen, J., Gong, Z., Kong, X., Wei, W., & Gao, H. (2020). Realizing the potential of the internet of things for smart tourism with 5G and AI. <i>IEEE network</i> , 34(6), 295-301. Novera, C. N., Ahmed, Z., Kushol, R., Wanke, P., & Azad, M. A. K. (2022). Internet of Things (IoT) in smart tourism: a literature review. <i>Spanish Journal of Marketing-ESIC</i> , 26(3), 325-344. Astanakulov, O., Balba, M. E., Khushvakt, K., & Muslimakhon, S. (2025). IoT Innovations for Transforming the Future of Tourism Industry: Towards Smart Tourism Systems. <i>Journal of Intelligent Systems & Internet of Things</i> , 14(2).		Lecture, discussion, case study, article review	Smart Technologies and the Internet of Things (IoT) in tourism	
7	Pan, S. Y., Gao, M., Kim, H., Shah, K. J., Pei, S. L., & Chiang, P. C. (2018). Advances and challenges in sustainable tourism toward a green economy. <i>Science of the total environment</i> , 635, 452-469. Aliyeva, Z. N., Kaliskarova, Z. K., Ongar, A. B., & Baiburiyev, R. M. (2020). Green technologies in the field of tourism. <i>Вестник КазНУ. Серия географическая</i> , 58(3), 45-53. Sarja, N. L. A. K. Y., Widana, I. P. K. A., Suprpto, P. A., & Pamularsih, T. R. (2021). Developing Green Tourism-Based Model of Information Technology Utilization in Tourism Villages. <i>International Journal of Applied Sciences in Tourism and Events</i> , 5(2), 153-165. Manmohan, C., Nikhat, M., Mohammad, N., Gera, R., & Pathani, A. (2023). Green technology and environmental sustainability in the tourism sector: A bibliometric analysis. In <i>E3S Web of Conferences</i> (Vol. 391, p. 01179). EDP Sciences. Gunduz Songur, A., Turktarhan, G., & Cobanoglu, C. (2023). Progress on green technology research in hotels: a literature review. <i>Journal of Hospitality and Tourism Insights</i> , 6(5), 2052-2072. Sun, J., & Chen, D. (2025). Green credit, tourism technology innovation, and sustainable development of tourism. <i>International Review of Economics & Finance</i> , 99, 104004.		Lecture, discussion, case study, article review	Sustainability and Green Technologies in Tourism	
8	Reading of course-related articles, books, and reports			Midterm	
9	Sigala, M., Rahimi, R., & Thelwall, M. (2019). Big data and innovation in tourism, travel, and hospitality. <i>Culinary Science & Hospitality Research</i> , 23(6), 1-11. Alaei, A. R., Becken, S., & Stantic, B. (2019). Sentiment analysis in tourism: capitalizing on big data. <i>Journal of travel research</i> , 58(2), 175-191. Iorio, C., Pandolfo, G., D'Ambrosio, A., & Siciliano, R. (2020). Mining big data in tourism. <i>Quality & Quantity</i> , 54(5), 1655-1669. Mariani, M. (2020). Big data and analytics in tourism and hospitality: a perspective article. <i>Tourism Review</i> , 75(1), 299-303. Mariani, M., & Baggio, R. (2022). Big data and analytics in hospitality and tourism: a systematic literature review. <i>International Journal of Contemporary Hospitality Management</i> , 34(1), 231-278. Özen, İ. A., & Özgül Katlav, E. (2023). Aspect-based sentiment analysis on online customer reviews: a case study of technology-supported hotels. <i>Journal of Hospitality and Tourism Technology</i> , 14(2), 102-120.		Lecture, discussion, case study, article review	Big Data and Data Analytics in Tourism	

Order	PreparationInfo	Laboratory	TeachingMethods	Theoretical	Practise
10	Karagoz Zeren, S., & Demirel, E. (2019). Blockchain based smart contract applications in tourism industry. In Digital business strategies in blockchain ecosystems: Transformational design and future of global business (pp. 601-615). Cham: Springer International Publishing. Calvaresi, D., Leis, M., Dubovitskaya, A., Schegg, R., & Schumacher, M. (2019). Trust in tourism via blockchain technology: results from a systematic review. Information and communication technologies in tourism 2019, 304-317. Rejeb, A., & Karim, R. (2019). Blockchain technology in tourism: Applications and possibilities. World Scientific News, 137, 119-144. Bodkhe, U., Bhattacharya, P., Tanwar, S., Tyagi, S., Kumar, N., & Obaidat, M. S. (2019, August). BloHosT: Blockchain enabled smart tourism and hospitality management. In 2019 international conference on computer, information and telecommunication systems (CITS) (pp. 1-5). IEEE. Antoniadis, I., Spinthiropoulos, K., & Kontsas, S. (2020). Blockchain applications in tourism and tourism marketing: A short review. Strategic Innovative Marketing and Tourism: 8th ICSIMAT, Northern Aegean, Greece, 2019, 375-384. Singh, A., & Hassan, S. C. (2024). Service Innovation Through Blockchain Technology in the Tourism and Hospitality Industry: Applications, Trends, and Benefits. In Service Innovations in Tourism: Metaverse, Immersive Technologies, and Digital Twin (pp. 205-214). IGI Global Scientific Publishing. Mountije, Y., Agapito, D., & Ramos, C. (2025). Reshaping the future of tourism & hospitality industry through blockchain technology: A systematic literature review. Information Technology & Tourism, 1-27. Papamatthaiou, N., & Menegaki, A. (2025). Blockchain Technology Applications in Tourism: A review of applications, Barriers, and Strategic Horizons. Barriers, and Strategic Horizons (January 10, 2025).		Lecture, discussion, case study, article review	Blockchain Applications in Tourism	
11	Kazak, A. N., Chetyrbok, P. V., & Oleinikov, N. N. (2020). Artificial intelligence in the tourism sphere. In IOP Conference Series: Earth and Environmental Science (Vol. 421, No. 4, p. 042020). IOP Publishing. Bronzin, T., Prole, B., Stipić, A., & Pap, K. (2021, September). Artificial Intelligence (AI) brings enhanced personalized user experience. In 2021 44th International Convention on Information, Communication and Electronic Technology (MIPRO) (pp. 1070-1075). IEEE. Nugroho, I. S., Priyanto, D., & Purnama, Y. (2024). Exploring the Role of Artificial Intelligence (AI) in Designing and Optimizing Personalization Strategies to Enhance Customer Experience in the Tourism Industry. Technology and Society Perspectives (TACIT), 2(3), 292-298. Ferhataj, A. (2024). Ai-Driven Personalization In Tourism: Analyzing Sustainable Travel Preferences With Machine Learning. In 8th International Halich Congress on Multidisciplinary Scientific Research. Mishra, S., Anifa, M., & Naidu, J. (2025). AI-Driven Personalization in Tourism Services: Enhancing Tourist Experiences and Business Performance. In Integrating Architecture and Design Into Sustainable Tourism Development (pp. 1-20). IGI Global Scientific Publishing.		Lecture, discussion, case study, article review	Artificial Intelligence and Personalized Services in Tourism	
12	Nayyar, A., Mahapatra, B., Le, D., & Suseendran, G. (2018). Virtual Reality (VR) & Augmented Reality (AR) technologies for tourism and hospitality industry. International journal of engineering & technology, 7(2.21), 156-160. Ozdemir, M. A. (2021). Virtual reality (VR) and augmented reality (AR) technologies for accessibility and marketing in the tourism industry. In ICT tools and applications for accessible tourism (pp. 277-301). IGI Global Scientific Publishing. ISO 690 Tsimakis, A., Sotiropoulou, I., Telonis, G., Halkiopoulos, C., & Boutsinas, B. (2023, August). Virtual Reality (VR) and Augmented Reality (AR) in tourism and hospitality. A systematic evaluation. In International conference of the international association of cultural and digital tourism (pp. 63-81). Cham: Springer Nature Switzerland. Yu, J., Kim, S., Hailu, T. B., Park, J., & Han, H. (2024). The effects of virtual reality (VR) and augmented reality (AR) on senior tourists' experiential quality, perceived advantages, perceived enjoyment, and reuse intention. Current Issues in Tourism, 27(3), 464-478.		Lecture, discussion, case study, article review	Virtual Reality (VR) and Augmented Reality (AR) in Tourism	
13	Alexis, P. (2017). R-Tourism: Introducing the potential impact of robotics and service automation in tourism. Ovidius University Annals, Series Economic Sciences, 17(1), 211-216. Ivanov, S., & Webster, C. (2020). Robots in tourism: A research agenda for tourism economics. Tourism Economics, 26(7), 1065-1085. Ivanov, S., Gretzel, U., Berezina, K., Sigala, M., & Webster, C. (2019). Progress on robotics in hospitality and tourism: a review of the literature. Journal of Hospitality and Tourism Technology, 10(4), 489-521. Ivanov, S., Duglio, S., & Beltramo, R. (2023). Robots in tourism and sustainable development goals: tourism agenda 2030 perspective article. Tourism Review, 78(2), 352-360. Zhang, Z., Chen, Y., Luan, F., & Fang, Z. (2025). Tourism, Technology, and Carbon: The Role of Robotics. Tourism Planning & Development, 1-19.		Lecture, video content, discussion	Robotics and Autonomous Systems in Tourism	

Order	PreparationInfo	Laboratory	TeachingMethods	Theoretical	Practise
14	Reading scientific articles, books, and reports related to research topics		Seminar, Lecture, Discussion	Presentation and Evaluation of Student Research Reports	
15	Reading scientific articles, books, and reports related to research topics		Seminar, Lecture, Discussion	Presentation and Evaluation of Student Research Reports	

Workload

Activities	Number	PLEASE SELECT TWO DISTINCT LANGUAGES
Vize	1	5,00
Final	1	10,00
Ders Öncesi Bireysel Çalışma	7	8,00
Ders Sonrası Bireysel Çalışma	7	8,00
Ara Sınav Hazırlık	1	10,00
Final Sınavı Hazırlık	1	15,00
Seminer	1	15,00

Assesments

Activities	Weight (%)
Ara Sınav	40,00
Final	60,00

	P.O. 1	P.O. 2	P.O. 3	P.O. 4	P.O. 5	P.O. 6	P.O. 7	P.O. 8	P.O. 9	P.O. 10	P.O. 11	P.O. 12	P.O. 13	P.O. 14	P.O. 15
L.O. 1	1														
L.O. 2	1			1			1								
L.O. 3						1						1			1
L.O. 4			1												
L.O. 5				1			1							1	
L.O. 6								1	1						
L.O. 7	1										1				

Table :

- P.O. 1 :** Turizm İşletmeciliği alanında ve ilgili disiplinlerde sahip olduğu bilgiyi uzmanlık düzeyinde geliştirir ve derinleştirir.
- P.O. 2 :** Turizm alanı ile ilgili ulusal ve uluslararası hukuki düzenlemeleri kavrar ve uygular.
- P.O. 3 :** Turizm sektöründeki güncel konular ve sorunlar için yaratıcı ve pratik çözüm önerileri geliştirir.
- P.O. 4 :** Bilimsel araştırma yöntemlerini kullanarak alanıyla ilgili bir araştırmayı planlar, yürütür, değerlendirir ve rapor halinde sunar.
- P.O. 5 :** Makro ve mikro ölçekte turizm plan ve politikaları konusunda ayrıntılı bilgi sahibi olur.
- P.O. 6 :** Ulusal ve uluslararası turizm işletmelerini etkin şekilde yönetebilmek için gerekli olan önemli işletmecilik ilkelerini bilir, eleştirel şekilde değerlendirir ve uygular.
- P.O. 7 :** Turizm işletmeciliği ile ilgili rekabet stratejileri geliştirir ve uygular.
- P.O. 8 :** Alanında uzmanlık gerektiren konularda bir çalışmayı başkalarıyla ve bağımsız olarak etkin bir şekilde yürütür.
- P.O. 9 :** Yaşam boyu öğrenme için gerekli olan davranışlar ve yetkinlikler geliştirir.
- P.O. 10 :** Edindiği bilgi ve becerileri analiz eder, eleştirel şekilde yorumlar ve değerlendirir.
- P.O. 11 :** Bir yabancı dili en az Avrupa Dil Portföyü B2 genel düzeyinde kullanarak sözlü ve yazılı iletişim kurar.
- P.O. 12 :** Turizm İşletmeciliği alanıyla ilgili bilgisayar yazılımı, bilgi ve iletişim teknolojilerini ileri düzeyde kullanır.
- P.O. 13 :** Toplumsal ve mesleki etik değerleri kavrar, eleştirel bakış açısıyla değerlendirir ve uygun davranışlar geliştirir.
- P.O. 14 :** Yazılı ve sözlü olarak etkili iletişim ve sunum becerileri gösterir.
- P.O. 15 :** Sosyal adalet, kültürel değerler ve çevreye duyarlılık gibi konularda yeterli bilince sahip olur.
- L.O. 1 :** Turizm sektöründe teknoloji kullanımına ilişkin temel ve güncel kavramları açıklar, bu bilgiyi uzmanlık düzeyinde geliştirir.
- L.O. 2 :** Güncel akademik literatürü eleştirel bir bakış açısıyla değerlendirir ve yaratıcı çözümler önerir.
- L.O. 3 :** Turizm işletmelerinde kullanılan teknolojilerin etkilerini sürdürülebilirlik ve etik boyutlarıyla birlikte analiz eder.
- L.O. 4 :** Bilimsel araştırma yöntemlerini kullanarak teknoloji odaklı bir çalışma tasarlar, yürütür, değerlendirir ve raporlaştırır.
- L.O. 5 :** Araştırma bulgularını akademik yazım kurallarına uygun şekilde raporlaştırır ve sunar.
- L.O. 6 :** Teknolojik gelişmeleri turizm politikaları ve rekabet stratejileriyle ilişkilendirir.
- L.O. 7 :** Alanında bağımsız ya da grup halinde etkin araştırma çalışmaları yürütür.