# ARTIFICIAL INTELLIGENCE AND TELEMEDICINE IN DERMATOLOGY

| 1 | Course Title: | ARTIFICIAL INTELLIGENCE AND TELEMEDICINE IN DERMATOLOGY |
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| 2 | Course Code: | TTIP5010 |
| 3 | Type of Course: | Optional |
| 4 | Level of Course: | Third Cycle |
| 5 | Year of Study: | 0 |
| 6 | Semester: | 2 |
| 7 | ECTS Credits Allocated: | 6.00 |
| 8 | Theoretical (hour/week): | 2.00 |
| 9 | Practice (hour/week): | 0.00 |
| 10 | Laboratory (hour/week): | 0 |
| 11 | Prerequisites: | none |
| 12 | Language: | Turkish |
| 13 | Mode of Delivery: | Face to face |
| 14 | Course Coordinator: | Prof. Dr. EMEL BÜLBÜL BAŞKAN |
| 15 | Course Lecturers: | Prof.Dr.Emel Bülbül Başkan |
| 16 | Contact information of the Course Coordinator: | bbemel@uludag.edu.tr |
| 17 | Website: | |
| 18 | Objective of the Course: | Since the purpose of the Translational Medicine program is defined as a "bed to bench" and focuses entirely on solving problems in medicine, it aims to enable the graduate students included in this program to see and understand the examples of artificial intelligence in dermatological diseases and to create a platform for scientific studies. |
| 19 | Contribution of the Course to Professional Development: | To learn the basic concepts of artificial intelligence applications in skin diseases, to examine artificial intelligence applications in skin cancers, follow-up and treatment of chronic diseases, hair and nail diseases and aesthetic dermatology, to construct a scientific study plan with literature examples, and to discuss real-time skin analysis and face recognition programs as examples. |
| 20 | Learning Outcomes: | |

| | | 1 | Comprehending artificial intelligence application examples in dermatology |
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| | | 2 | Learning artificial intelligence applications in skin cancers and chronic skin diseases |
| | | 3 | examining artificial intelligence applications in skin samples such as hair and nails |
| | | 4 | to be able to discuss artificial intelligence literature |
| | | 5 | To comprehend telemedicine applications in dermatology |
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| 21 | Course Content: | |
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| | **Course Content:** | |
| Week | Theoretical | Practice |

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| **1** | Basic concepts in artificial intelligence applications in skin diseases | |
| **2** | Artificial intelligence applications in skin cancers | |
| **3** | Artificial intelligence in precision medicine applications | |
| **4** | Artificial intelligence applications in Aesthetic Dermatology | |
| **5** | Artificial intelligence in the follow-up and treatment of chronic diseases | |
| **6** | Artificial intelligence in nail diseases | |
| **7** | The use of artificial intelligence in hair diseases | |
| **8** | Artificial intelligence dermatology literature discussion _I | |
| **9** | Artificial intelligence dermatology literature discussion _II | |
| **10** | Real-time skin analysis | |
| **11** | Face tracking technologies | |
| **12** | Telemedicine applications in dermatology | |
| **13** | Telemedicine applications in dermatology-II | |
| **14** | Evaluation | |

| 22 | Textbooks, References and/or Other Materials: | | Artificial Intelligence in Dermatology: A Primer. Young AT, Xiong M, Pfau J, Keiser MJ, Wei ML. J Invest Dermatol. 2020 Aug;140(8):1504-1512. doi: 10.1016/j.jid.2020.02.026. Epub 2020 Mar 27. PMID: 32229141 Free article. Review.<br><br>Artificial Intelligence in Dermatology-Where We Are and the Way to the Future: A Review. Hogarty DT, Su JC, Phan K, Attia M, Hossny M, Nahavandi S, Lenane P, Moloney FJ, Yazdabadi A. Am J Clin Dermatol. 2020 Feb;21(1):41-47. doi: 10.1007/s40257-019-00462-6.<br><br>Artificial intelligence in dermatology for the clinician. Patel S, Wang JV, Motaparthi K, Lee JB. Clin Dermatol. 2021 Jul-Aug;39(4):667-672. doi: 10.1016/j.clindermatol.2021.03.012. Epub 2021 Mar 19.<br><br>What is AI? Applications of artificial intelligence to dermatology. Du-Harpur X, Watt FM, Luscombe NM, Lynch MD. Br J Dermatol. 2020 Sep;183(3):423-430. doi: 10.1111/bjd.18880. Epub 2020 Mar 29.<br><br>Artificial intelligence in dermatology and healthcare: An overview. Pai VV, Pai RB. Indian J Dermatol Venereol Leprol. 2021 [SEASON];87(4):457-467. doi: 10.25259/IJDVL_518_19.<br><br>Artificial intelligence in medicine and dermatology. Wozniacka A, Patrzyk S, Mikolajczyk M. Postepy Dermatol Alergol. 2021 Dec;38(6):948-952. doi: 10.5114/ada.2020.101259. Epub 2022 Jan 7. PMID: 35125999 Free PMC article. Review.<br><br>Artificial Intelligence Applications in Dermatology: Where Do We Stand? Gomolin A, Netchiporouk E, Gniadecki R, Litvinov IV. Front Med (Lausanne). 2020 Mar 31;7:100. doi: 10.3389/fmed.2020.00100. eCollection 2020. PMID: 32296706 Free PMC article. Review.<br><br>Artificial Intelligence in Medicine: Where Are We Now? Kulkarni S, Seneviratne N, Baig MS, Khan AHA. Acad Radiol. 2020 Jan;27(1):62-70. doi: 10.1016/j.acra.2019.10.001. Epub 2019 Oct 19. PMID: 31636002 Review.<br><br>Artificial Intelligence in Dermatology: A Practical Introduction to a Paradigm Shift. Eapen BR.Indian Dermatol Online J. 2020 Nov 8;11(6):881-889. doi: 10.4103/idoj.IDOJ_388_20. eCollection 2020 Nov-Dec.<br><br>Artificial intelligence in dermatology. Rundle CW, Hollingsworth P, Dellavalle RP. Clin Dermatol. 2021 Jul-Aug;39(4):657-666. doi: 10.1016/j.clindermatol.2021.03.011. Epub 2021 Mar 19 |
| 23 | Assesment | | |

| TERM LEARNING ACTIVITIES | NUMBER | WEIGHT |
| --- | --- | --- |
| Midterm Exam | 0 | 0.00 |
| Quiz | 0 | 0.00 |

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| Home work-project | 0 | 0.00 |
| Final Exam | 1 | 100.00 |
| Total | 1 | 100.00 |
| Contribution of Term (Year) Learning Activities to Success Grade | 0.00 | |
| Contribution of Final Exam to Success Grade | 100.00 | |
| Total | 100.00 | |
| Measurement and Evaluation Techniques Used in the Course | open ended questions | |

| 24 | ECTS / WORK LOAD TABLE |
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| Activites | Number | Duration (hour) | Total Work Load (hour) |
|---|---|---|---|
| Theoretical | 14 | 2.00 | 28.00 |
| Practicals/Labs | 0 | 0.00 | 0.00 |
| Self study and preperation | 20 | 2.00 | 40.00 |
| Homeworks | 20 | 2.00 | 40.00 |
| Projects | 20 | 2.00 | 40.00 |
| Field Studies | 0 | 0.00 | 0.00 |
| Midterm exams | 0 | 0.00 | 0.00 |
| Others | 15 | 2.00 | 30.00 |
| Final Exams | 1 | 1.00 | 1.00 |
| Total Work Load | | | 179.00 |
| Total work load/ 30 hr | | | 5.97 |
| ECTS Credit of the Course | | | 6.00 |

| 25 | CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAMME QUALIFICATIONS |
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| | PQ1 | PQ2 | PQ3 | PQ4 | PQ5 | PQ6 | PQ7 | PQ8 | PQ9 | PQ10 | PQ11 | PQ12 | PQ13 | PQ14 | PQ15 | PQ16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ÖK1 | 4 | 3 | 3 | 3 | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ÖK2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ÖK3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ÖK4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ÖK5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

LO: Learning Objectives    PQ: Program Qualifications

| Contribution Level: | 1 very low | 2 low | 3 Medium | 4 High | 5 Very High |
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