| | WAVELET TRANSFO | ORM A | ND MULTI SCALE ANALYSIS | | | | | |
|----|--|--|---|--|--|--|--|--|
| 1 | Course Title: | WAVEL | ET TRANSFORM AND MULTI SCALE ANALYSIS | | | | | |
| 2 | Course Code: | EEM4436 | | | | | | |
| 3 | Type of Course: | Optional | | | | | | |
| 4 | Level of Course: | First Cycle | | | | | | |
| 5 | Year of Study: | 4 | | | | | | |
| 6 | Semester: | 8 | | | | | | |
| 7 | ECTS Credits Allocated: | 4.00 | | | | | | |
| 8 | Theoretical (hour/week): | 3.00 | | | | | | |
| 9 | Practice (hour/week): | 0.00 | | | | | | |
| 10 | Laboratory (hour/week): | 0 | | | | | | |
| 11 | Prerequisites: | | | | | | | |
| 12 | Language: | Turkish | | | | | | |
| 13 | Mode of Delivery: | Face to face | | | | | | |
| 14 | Course Coordinator: | Doç. Dr. Ahmet Emir DİRİK | | | | | | |
| 15 | Course Lecturers: | | | | | | | |
| 16 | Contact information of the Course Coordinator: | edirik@uludag.edu.tr | | | | | | |
| 17 | Website: | | | | | | | |
| 18 | Objective of the Course: | The main objectives of the course are as follows: | | | | | | |
| | | To provide advanced knowledge of Wavelets and Multiscale Analysis fundamentals. | | | | | | |
| | | To develop advanced skills and competency in Wavelets and Multiscale Analysis discipline. | | | | | | |
| | | To apply these skills to the full spectrum of complex Wavelets and Multiscale Analysis problems, through independent research and investigation. | | | | | | |
| | | To develop the students' transferable skills including communication (oral, written and aural), time and project management. | | | | | | |
| 19 | Contribution of the Course to Professional Development: | | | | | | | |
| 20 | Learning Outcomes: | | | | | | | |
| | | 1 | Gain sufficient knowledge on Wavelets and Multiscale Analysis field; the ability to model and solve pattern recognition problems using theoretical and practical knowledge. | | | | | |
| | | 2 | Gain the ability to identify, model, and solve complex Wavelets and Multiscale Analysis problems; the ability to select and apply appropriate analysis and modeling methods for these problems. | | | | | |
| | | 3 | | | | | | |
| | | 4 | Gain the ability to develop, select, and use modern techniques and tools necessary for Wavelets and Multiscale Analysis applications; the ability to use information technologies in an efficient way. | | | | | |
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| 21 | Cour | se C | Conter | nt: | | | | | | | | | | | | | |
| | Course Content: | | | | | | | | | | | | | | | | |
| Week | Theo | oreti | cal | | | | | | Pra | actice | | | | | | | |
| 1 | Digita | al sig | gnal p | rocess | sing m | nethods | s in ge | eneral | | | | | | | | | |
| 2 | Wave | elets | ; | | | | | | | | | | | | | | |
| 3 | Signa | al Sp | aces | | | | | | | | | | | | | | |
| 4 | Signa | al Ba | ases a | nd Fra | ames | | | | | | | | | | | | |
| 5 | Wave | elet t | transf | orms | | | | | | | | | | | | | |
| 6 | Cont | inuo | us tim | ie wav | elet ti | ansfor | ms | | | | | | | | | | |
| 7 | Cont | inuo | us tim | ie wav | elet s | eries | | | | | | | | | | | |
| 8 | MID | FERI | M EXA | AM an | d Cou | irse Re | eview | | | | | | | | | | |
| 9 | Discr gene | screte time wavelet transforms and eneralizations | | | | | | | | | | | | | | | |
| 10 | Statio | onar | y-time | e wave | elet tra | ansform | าร | | | | | | | | | | |
| 11 | Wave | elet l | Packe | ets | | | | | | | | | | | | | |
| 12 | Wave | elet l | based | syste | m des | sign | | | | | | | | | | | |
| 13 | Appr | oxim | nation | | | | | | | | | | | | | | |
| Activites | | | | 1 | Number Duration (hou | | | hour) | r) Total Work Load (hour) | | | | | | | | |
| Theore | tical | mano | • | | | | | | Ań | l íh trod | uction | to rand | on A. Vibr | ations | . spect | a faqqd w | avelet |
| Practica | L als/La | abs | | | | | | | |) | | <u> </u> | 0.00 | <u></u> | | 0.00 | |
| Selfstu | dyar | id br | epera | tion | | | | | | 14 3 | | 3.00 | 3.00 | | 42.00 | | |
| Homew | orks | 51110 | 110 | | | | | | 1 | 1 14 | | | 14.00 | 1.00 | | 14.00 | |
| Project | s | | | | | | R | | (| 0.0 | | | 0.00 | 00 | | 0.00 | |
| Field St | tudies | 3 | | | | | 1. | | (| 0.00 | | | 0.00 | | | | |
| Midtern | n exa | ms | | | | | 0 | | 00 | 000 <u>15.00</u> | | | | 15.00 | | | |
| Others | • | | | | | | | | (|) | | | 0.00 | | | 0.00 | |
| FINAL E | Xams | | | | | | 1 | | 60, | 60100 <u>7.00</u> | | | 7.00 | | | | |
| Total W | /ork L | oad | | | | | I _ | | | | | | | | | 120.00 | |
| Contrib Total W | UFICID | <u>afi/</u> ; | <u>8</u> 6774 | rear) I | Learn | ing Act | ivities | to | 40 | .00 | | | | | | 4.00 | |
| ECTS (| Credit | of th | ne Co | urse | 5 300 | Jess G | raue | | | .00 | | | | | | 4.00 | |
| Total | | | | | | | | | 10 | 0.00 | | | | | | | |
| Measurement and Evaluation Techniques Used in the | | | | | | | | | | | | | | | | | |
| 24 FCTS / WORK LOAD TABLE | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | |
| 25 | QUALIFICATIONS | | | | | | | | | | | | | | | | |
| | F | PQ1 | PQ2 | PQ3 | PQ4 | PQ5 | PQ6 | PQ7 | PQ8 | PQ9 | PQ1 0 | PQ11 | PQ12 | PQ1 3 | PQ14 | PQ15 | PQ16 |
| ÖK1 | 4 | ł | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ÖK2 | C |) | 4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

| LO: Learning Objectives PQ: Program Qualifications | | | | | | | | | | |
|--|------------|-------|----------|--------|-------------|--|--|--|--|--|
| Contrib ution Level: | 1 very low | 2 low | 3 Medium | 4 High | 5 Very High | | | | | |