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ENGINEERS WITH SOCIAL RESPONSIBILITY

(/)

M.Tech. (EC)

M.Tech. in Electronics and Communication (EC) with Specialization in Wireless Communications and Signal Processing – in collaboration with C. R. Rao Advanced Institute of Mathematics, Statistics and Computer Science (C. R. Rao AIMSCS), Hyderabad

Program Overview

Courses

Master of Technology in **Electronics and Communication (EC) with Specialization in Wireless Communications and Signal Processing (WC-SP)** is a full-time twoyear (four semesters) program. The MTech EC WC-SP program is jointly offered by DA-IICT and CR Rao AIMSCS. The program has been specially designed to meet the increasing need for the professionals who would be able to respond to the advancement in the wireless communication systems and applications of signal processing algorithms.

This program is designed with following objectives:

- To educate and train the students who can contribute to advanced wireless communication systems (including 5G and future next generation wireless systems), the advanced signal processing technologies and the confluence of these two.

- To develop research projects on communication systems and signal processing in collaboration with the industry and R&D organizations.
- To apply signal processing techniques in wireless communication systems.

Apart from the courses, students undertake two projects (Minor Project I and Major Project 1) starting their second semester. The students have an option to either graduate in the MTech thesis track – wherein they continue the Major Project I into Major Project II in the fourth semester, or they can opt to join an industry/research internship in the fourth semester and graduate in a non-thesis track.

On successful completion of the program, the students will be able to acquire essential technical and practical knowledge for solving real-world problems in the WC and SP domains using modern technologies and tools, and will have the ability to demonstrate excellent analytical and logical problem-solving skills.

The curriculum mandates a total of 60 credits, 35 earned through coursework and 25 credits earned through the minor and the major projects and/or internship. Out of the 35 required coursework credits, 13 credits are allocated to compulsory (core) courses, and 22 credits are allocated to electives.

Programme Outcomes (POs)

PO No.	Program Outcomes
PO1	**Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
PO2	**Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences
PO3	**Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal,

	and environmental considerations.
PO4	**Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
PO5	**Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
PO6	**The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
PO7	**Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
PO8	**Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
PO9	**Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
PO10	**Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
PO11	**Project management and finance:** Demonstrate knowledge and understanding

	of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.
PO12	**Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Programme Specific Outcomes (PSOs)

After successful completion of the program students will have:

PSO No.	Program Specific Outcomes (PSOs)
PSO1	To apply the theoretical concepts of computer engineering and practical knowledge in analysis, design and development of computing systems and interdisciplinary applications.
PSO2	To work as a socially responsible professional by applying ICT principles in real-world problems.

Program Outcomes (POs) & Course Outcomes (COs) of The Program (https://www.daiict.ac.in/sites/default/files/other-files/POs-PSOs-COs_ver2.pdf)

Syllabus of The Program (https://www.daiict.ac.in/sites/default/files/other-files/Syllabus.pdf)

The program brochure is available **here** (https://www.daiict.ac.in/sites/default/files/other-files/M.Tech_._EC_WC-SP_Brochure_2023.pdf)

Contact Us

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NAAC

- **SSR & Evaluative Reports Addendum 2017 (/sites/default/files/NAAC-Addendum-final.pdf)**
- **SSR 2015 (/sites/default/files/NAAC-Self-Study-Report.pdf)**
- **Evaluative Report 2015 (/sites/default/files/NAAC-Evaluative-Report.pdf)**

CoE, Government of Gujarat

- **Application submitted (/coe-government-gujarat)**
- **Audited Accounts (/coe-government-gujarat)**
- **Meeting of the Governing Bodies (/coe-government-gujarat)**

NIRF

- **INDIA Ranking 2023 DCS Submitted (/nirf-national-institutional-ranking-framework)**

Other Links

- **Prof. S.C. Sahasrabudhe - A Memoir (https://www.daiict.ac.in/prof-sc-sahasrabudhe-memoir)**
- **Holidays 2023 (/sites/default/files/other-files/Holidays2023.pdf)**
- **Ecampus (https://ecampus.daiict.ac.in/webapp/intranet/index.jsp)**
- **Intranet (http://intranet.daiict.ac.in/)**
- **Courses (https://moodle.daiict.ac.in/)**
- **Capacity Development and Skills Enhancement Initiatives (/capacity-development-and-skills-enhancement-initiatives)**
- **Parents (/parents)**
- **CEP (cep)**
- **DCEI (http://ceid.daiict.ac.in/)**
- **Proforma for Inspection by UGC (/sites/default/files/UGCproforma_30Dec2015.pdf)**
- **Committees (https://www.daiict.ac.in/committees)**
- **Anti-Ragging Committee (/sites/default/files/other-files/Anti-Ragging_Vigilance-Committee_Faculty-and-Staff_2022-23.pdf)**
- **DA-IICT Lecture Series (/da-iict-lecture-series-dls)**
- **Synapse (https://instagram.com/synapsedaiict)**
- **Concours (http://concours.daiict.ac.in/)**
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Group Website

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