Koneru Lakshmaiah Education Foundation
(Category -1, Deemed to be University estd. u/s. 3 of the UGC Act, 1956)
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OFFICE OF DEAN ACADEMICS

Policy Document

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Title: Academic Pathways

Policy:

Every student irrespective of their enrolment into various programs of study are given the opportunity to choose their career pathways viz. Employability, Innovation and Research. Each of these pathways prepares the students in a unique way, enabling them to achieve the heights of their career. The choice of a pathway is decided based on the SWEAR Analysis done at regular intervals and the institute extends the necessary support in pursuing the pathway through the support systems like facilitators, infrastructure, network, ecosystem, etc.

Introduction to Employability pathway:

Allows the students to choose their preferred domains and encourages them to work on various technologies associated with it.

Students who wish to take the employability pathway are required to prepare themselves strongly in the core branch of study and apply their knowledge in developing products or solutions.

Students are advised to choose the appropriate domains as per their interest (transportation / electric vehicles/aerospace/healthcare/agriculture etc.) and start identifying the problems related to the thrust areas of regional, national & international level organizations, governmental and non-governmental bodies. Students should explore the existing solutions for the problems, analyze and design optimal solutions to address them.

Students are required to utilize the skill hours related to the subjects towards enhancing their skillsets through a Hands-on with the technologies learned towards addressing the domain issues.

Students should seek to self-learn modern technologies and new ways of applying gained knowledge towards solving a problem.

The students are required to enhance their skills with respect to the numerical and problem-solving courses through tutorial sessions wherever applicable.

Courses that contribute to the placement of students are distributed across the semesters, hence students are required to identify and put their best efforts into those subjects to attain the necessary outcome in them.

In internship embedded programs the students are required to choose the appropriate companies that work in the relevant domain of interest of the students. They may build their profile highlighting their achievements with respect to the application of their skillsets towards creating solutions for the existing problems.

The projects to be carried out by the student/group of students should also ensure the relevance with respect to the domain or technology of interest and it should highlight the contribution of the students towards solving the problem through gained skillset.

Students should be good at a presentation with their work in both oral and written forms by highlighting the entire work and how it has been modularized and solved.

Benchmarking:

Coding Competitions for Logical Thinking

Aptitude and Reasoning test like AMCAT and Cocubes

Social Internships – Addressing problems related to the community through technology / management / science

Hackathons to test their design thinking skills

Project Based Learning aligned with the problem solving respective to the domain

Certificate courses at various levels related to the Industry Requirement

NASSCOM / other relevant domain Qualification Pack

Mid-Grade / Major Projects – solving real problems using the knowledge gained in the relevant discipline

Technical and Industrial Internships - at the respective companies that work towards addressing the problems related to that domain.

Transferable Skills:

Communication (LSRW)

Logical Thinking

Critical Thinking

Design Thinking

Programming (IT) / Data Structures (IT) / Core Program related skills

Team Management

Project Management

Introduction to Innovation pathway:

The innovation pathway allows the students to explore the possibilities of utilizing science, technology, and management skills to solve real-world problems across various domains viz. Education, environment, healthcare, energy, transport systems, etc.

It is an exploratory pathway and is different from the other pathways by enabling the students to always see the challenges and opportunities around a problem. This pathway allows the learners to learn about the domain-specific aspects around the problem of study and earn the credits for the same.

Students are prepared with an inquisitive mindset of overcoming problems through various solutions and measure the success of each one of them towards finding the optimal solution.

Students will undergo necessary preparation on the financial modeling of their idea to become successful entrepreneurs.

Academic flexibility is extended to this category of students by decelerating their regular courses and doing the courses based on their needs towards addressing the problem.

Students are also encouraged to take a prototype semester to accelerate their progress with respect to their innovation and get their ideas incubated and supported by the institute or funding agencies.

Prototype semester typically is created with the courses necessary for the students to get the specialized knowledge in the problem specific domain and is decided based on the interest of the students and the career guidance through the faculty identified as "Innovation managers".

The courses taken by the students in such cases will be duly mapped to the Open Electives and specialization courses category thereby enabling the students to choose a multi-disciplinary specialization based on the recommendations from their innovation manager.

The progress of the students in this track will be measured with the benchmarks appropriate to the pathway at regular intervals and necessary corrective action will be recommended to the students at regular intervals by the innovation managers. This ensures that the students are able to achieve the necessary outcomes of the pathway.

Transferable Skills

Design Thinking

Critical Thinking

Logical Thinking

Innovation Management

Project Management

People Management

Networking

Finance management

Communication (LSRW)

Benchmarking

Design Sprints

Innovation Sprints

Idea Competitions

Pitching Competitions (like shark tank)

Certification track created for the specific domain / specialization

Hackathons

Projects leading to products or solutions

Funding support obtained

Internships with startups relevant to the domain

Participation in Community activities supported by the Entrepreneurial networks

Consultancy work undertaken and the status of completion with feedback

Introduction to Research Pathway (leading to higher studies)

Research pathway allows the students to pursue their passion with respect to solving the problems through inquisitive study. This pathway encourages students to get involved in identifying domain specific problems (like Sustainable Development Goals) and applying their learning in solving the identified problem.

Students undergoing research pathway are required to do in-depth study of the various subjects preferably in state-of-art mode opening more scope for exploration.

This pathway demands the students to associate with their professors working on their area of interest right from the second year of study and gain the necessary skills for contributing to the same.

The cohorts of various departments are formed with the intention of capacity building in the respective areas through establishment of national and international level collaborations thereby enabling students and professors to do research on challenging problems.

Students undergoing research pathways get the opportunity to interact with the active researchers in specific domains and publish research articles and do internships on research projects thereby getting due recognition in the form of a "Letter of Recommendation" from their professors for securing admission for higher studies / doctoral programs abroad.

Transferable Skills

Design Thinking

Critical Thinking

Logical Thinking

Inquisitive / explorative study

Networking

Intellectual Property Rights

Research Writing & Presentation

People Management

Finance management

Communication (LSRW)

Benchmarking

Design Sprints

Research Sprints

Certification track created for the specific domain / specialization

Research Hackathons

Projects leading to innovative sustainable solutions / changes to be made in process followed etc.

Contribution towards the research on funded projects

Research Internships from research labs / professors working on a domain area

Participation in research projects (inter disciplinary / multi-disciplinary) at scale

Consultancy work undertaken and the status of completion with feedback

International exposure through research studies on domain specific areas (e.g., MIT Micromasters)

Academic Flexibilities for slow learner and advanced Learners

Remedial classes – enhancement of attaining learning outcomes, preparing the students on the higher order thinking aspects, one to one attention to identify the gaps in learning, facilitation for practice, etc.

Deceleration – suggestion to opt for a smaller number of subjects in a semester, distribution of subjects across regular and summer semesters, identification of bridge courses that are appropriate for the students to attain a minimum level of learning outcome in core subjects.

Informal learning – support system to enable learning to learn in an alternative way rather than the conventional method of teaching and learning. Enables the learners to learn while solving the problem in a different learning space and at a different pace. (Refer the Informal Learning Policy for more information)

Acceleration – enables advanced learners to overload themselves to create free time to concentrate on the work aligned with their career track. Internship semester, semester abroad program or prototype semester are the options available for the students.

Self-learning – up to 40 % of the courses can be offered in self learning mode for the advanced learners thereby enabling them to use the time effectively in their domain of interest.

Work in lieu – allows the students to undergo work with the industry of choice (appropriate to the career category) and attain the outcome through the exhibition of their attainment. Refer Work In lieu policy for more information.

Open Electives – students are given the opportunity to choose from a wide range of open electives to pursue their passion with respect to multiple disciplines integrating it with their career pathway. The choice of foreign language can also be aligned to the scope and opportunities in their career track.

Customized Specialization – the specializations can be made domain specific to support the advanced learners to choose the subjects appropriate to their domain of interest, enabling them to focus on their work by associating with peers from across the globe. Here the specializations are in turn aligned with the tracks to bring better opportunities through collaborations with Industry, Centers of Excellence, innovation labs etc. This is a unique opportunity for the departments to build internal capacity in niche areas and bring more opportunities to offer **"global degree model"**.

Student migration among the career paths:

The vision with which a department is floating any program is usually documented through the Program Development Document (PDD). The PDD highlights the thrust areas identified, the constitution of courses and the contribution of courses towards the local, regional, national, and global requirements. The scope and opportunities provided by the program with respect to the different career tracks highlighted in the PDD is used as a reference by the respective departments in determining the transferable skills required and the list of benchmarking tools. The courses of a program are created with a higher focus on employability (50-70 %) and (30-50%) on innovation and research to ensure that the students who are focusing on innovation and research domains are backed up through the needful job opportunities in case they would like to migrate at a later stage.

In every career pathway, the benchmarks are used as a tool to measure the student progress at regular intervals thereby helping the mentors to take appropriate action through remedial sessions for slow learners or acceleration into higher order activities for advanced learners.

The data generated through the student performance on the subjects of the curriculum along with that of the benchmarks acts as a key to identifying any deviations in the students' progress for taking any timely action. The non-attainment of the learning outcomes with respect to the Higher Order thinking aspects are duly addressed through the remedial classes and administered practice sessions and other options like peer mentoring, etc.

The performance in the courses is mapped with the learning outcomes attained by the students and in turn, with the Qualification, it aligns with the National Higher Education Qualification framework to understand the context of the progress with respect to the desired outcomes of the program.

In cases where some students are not performing consistently on par with various qualification requirements of a specific pathway, they are counseled to understand their areas of strength and interest to motivate them towards the other career tracks. In this process, the students are made aware of the scope and opportunities of the other career paths as well as the transferable skills required for those paths. The student is open to choosing the alternative career path and will be provided with necessary bridge courses in the transferable skills appropriate to the new path for a smooth transition.

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