

### **2.3.1 Student centric methods, such as experiential learning, participative learning and problem-solving methodologies are used for enhancing learning experiences**

Teaching-Learning in DEI follows a student-centric process employing experiential, participative, problem solving and constructivist methodologies, through (a) Teaching Methodology, (b) Experience-Based Courses, (c) Different Modes of learner-centered teaching (d) a wide range of co-scholastic components and (e) Specialized Centres of Learning.

#### **(a) Experiential and Participatory Teaching-Learning methods:**

Experiential and Participatory Teaching-Learning methods constitute an integral component of the curriculum and of the continuous evaluation. These include:

- i. Seminar cum Group Discussions
- ii. Individual and Group Projects
- iii. Self-Study and Dissertations
- iv. Field work
- v. Case Analysis
- vi. Presentations
- vii. Term Papers
- viii. Self-Study Courses
- ix. Active Learning: Flipped Classroom, Team work, Students as teachers
- x. Video viewing cum discussions
- xi. Research Colloquia

#### **(b) Experience-based/ Practice-oriented courses**

The Institute has introduced a unique cooperative programme in engineering and management which requires students to undertake a 5-6-month on-the-job training in the industry before completing the final year. Summer Training, Summer Projects and Summer Internships are an integral part of most curriculum to promote experiential learning. Compulsory work-based courses provide students with the opportunity for incremental skill development.

Based on the principle of '*Learning by Doing*' a large proportion of courses in each programme have a high practical component to provide hands on learning experience to the students:

- i. Work-Based training
- ii. Co-operative Industrial Internship
- iii. Performing Arts Courses
- iv. Vocational and Skill courses
- v. ICT courses
- vi. Rural Development Core course with focus on Agricultural Operations
- vii. Scouting and Guiding Programme
- viii. Student Centred Online Teaching-Learning System (SCOTLS) for B.Ed. and M.Ed. Internship at remote locations (incorporating Tablet-based teaching in collaboration with Microsoft, India.)
- ix. Teaching Internship in adopted tribal villages and neighboring community schools.
- x. Vocational and Skill courses

#### **(c) Learner-Centred Modes of Education**

Learner-Centred modes of teaching-learning are used that make learning self-paced and self-regulated:

- i. Vidyaprasar ([www.vidyaprasar.dei.ac.in](http://www.vidyaprasar.dei.ac.in)), an on-line collaborative learning, live web cast and content management system with state-of-the-art interactive learning resources. MOOCS developed by DEI and under e-PG-Pathshala and SWAYAM.
- ii. e-DEI-de program of DEI for certification through on-line modular courses for open and distance learners.
- iii. Ten Virtual and Remote Triggered Laboratories
- iv. MOOCS, especially for online vocational courses. DEI has created the first skillpedia in regional languages named, Massive Online Courseware Skilling and Entrepreneurship Network for India (MOOCSKENE-Bharat). The network offers free on-line learning in multiple languages across the country.
- v. Variety of Elective courses.

#### **(d) Student Centric Problem-solving methods**

These form a unique dimension of the curriculum and assessment at DEI. Some of the methods employed are:

- i. Compulsory, two term, research projects at the postgraduate level
- ii. Final year projects at the undergraduate level
- iii. Embedded course level projects
- iv. Design Engineering and Theme Development Projects
- v. Product Manufacturing Projects
- vi. Rural Engineering Projects
- vii. Seminars and Tutorials
- viii. DEI encourages social entrepreneurship involving nano-enterprises and frugal innovation as a means to provide students with the opportunity to earn while they learn.
- ix. The Institute gives Undergraduate Research Awards to meritorious students with an inclination for research in all branches of study.
- x. Daily Home Assignments

#### **(e) Co-Scholastic Learning Components**

- i. A wide range of compulsory co-scholastic learning components cater to varied learner interests and potentialities that include co-curricular activities, games and sports, yoga, community outreach, field and industrial visits, creative and problem-solving contests and Field and Industry experience.
- ii. A Business Advisory Clinic provides free consultancy to Business firms and Industries facing difficulties. Faculty members and students take up real life case studies and offer appropriate guidance. More than 6,000 cases have been taken up and resolved satisfactorily.

#### **(e) Specialized Centres of Learning**

The advanced centres of learning include:

- i. Multi-disciplinary Quantum and Nano Systems and the Consciousness Studies Virtual Centers
- ii. The Virtual Advanced Lab for Interactive Design, Analyze, and Test in Electronics – eVALIDATE.
- iii. The INFORMATION-COMMUNICATION-nEURO-cOGNITIVE- Technologies Assisted Language Lab(I-c-n-c-TALL)
- iv. 2G to 5G, IOT, AI and Robotics Laboratories
- v. Quantum Jugaad Centre and Entrepreneurship and Virtual Incubation Centre

#### **(f) Scaling up learning through industry-strength, living, laboratories**

- i. Laboratories such as the Dairy Plant, Food Processing Laboratory, Dress Designing and Tailoring and Textile Designing and printing, also mass produce products for public consumption.
- ii. The laboratories fitted with industry grade equipment provide significant learning experience on all aspects of product development and production.

#### **(g) Community Involvement**

- i. Students participate in various community initiatives such as running winter camps for school children, running skilling and soft skill development kiosks in medical camps and running welfare camps for the elderly.
- ii. These initiatives offer teaching and learning opportunities as well as opportunities to contribute to society.

The above teaching learning modalities ensure experiential and participatory learning leading to a holistic development of students within and beyond the classroom.

### **Links**

#### **Time Tables of Faculties**

- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Time%20Tables%202019%202.3.1/BVOC%20WEF%2022.7.19.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Time%20Tables%202019%202.3.1/TIME%20TABLE%20I%20SEM%2022.7.19.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Time%20Tables%202019%202.3.1/Time%20Table%20MT%2022.7.19.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Time%20Tables%202019%202.3.1/TIME%20TABLE%20PT%2022.7.19.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Time%20Tables%202019%202.3.1/TIMETABLE%20V%20SEM%20CIVIL%20ROOM.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Time%20Tables%202019%202.3.1/TT%20III%20SEM%2022.7.19.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Time%20Tables%202019%202.3.1/TT%20V%20SEM%2022.7.19.pdf>

## Student Support Activities

- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Student%20Support%20Activities%20-%20Evidence%202.2.1%202.3.1/GATE%20Registration.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Student%20Support%20Activities%20-%20Evidence%202.2.1%202.3.1/BoG%20meeting%20minutes%208%20January%202019%20.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Student%20Support%20Activities%20-%20Evidence%202.2.1%202.3.1/Internship%20stipend.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Student%20Support%20Activities%20-%20Evidence%202.2.1%202.3.1/Payment%20Advice%20of%20Employability%20skill%20test.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Student%20Support%20Activities%20-%20Evidence%202.2.1%202.3.1/Payment%20Advice%20of%20Gate%20Coaching.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Student%20Support%20Activities%20-%20Evidence%202.2.1%202.3.1/Payment%20Advice%20of%20Gate%20Registration.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Student%20Support%20Activities%20-%20Evidence%202.2.1%202.3.1/Payment%20Advice%20of%20Internship%20stipend.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Student%20Support%20Activities%20-%20Evidence%202.2.1%202.3.1/Payment%20Advice%20of%20Mitacs%20Student%201.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Student%20Support%20Activities%20-%20Evidence%202.2.1%202.3.1/Payment%20Advice%20of%20Mitacs%20Student%202.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Student%20Support%20Activities%20-%20Evidence%202.2.1%202.3.1/Payment%20Advice%20of%20Mitacs%20Student%203.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Student%20Support%20Activities%20-%20Evidence%202.2.1%202.3.1/Payment%20Advice%20of%20Mitacs%20Student%204.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Student%20Support%20Activities%20-%20Evidence%202.2.1%202.3.1/Payment%20Advice%20of%20Research%20Scholar.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Student%20Support%20Activities%20-%20Evidence%202.2.1%202.3.1/Payment%20Advice%20of%20Solar%20Vehicle.pdf>

## Links to Training Certificates/ Projects:

- [https://www.dei.ac.in/dei/index.php?option=com\\_content&view=article&id=856&Itemid=418](https://www.dei.ac.in/dei/index.php?option=com_content&view=article&id=856&Itemid=418) (see Section 1.3.4)

## Placement Profile

- <https://www.dei.ac.in/dei/files/placement/DEI-Training%20and%20Placement.pdf>

## Placement Cell and Statistics:

- [https://www.dei.ac.in/dei/index.php?option=com\\_content&view=category&layout=blog&id=27&Itemid=257](https://www.dei.ac.in/dei/index.php?option=com_content&view=category&layout=blog&id=27&Itemid=257)

## Placement Data

- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/Faculty%20of%20Education%20Placement%20Record%20DEI%202014-17.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/Education%20Faculty%20PLACEMENT%20REPORT%202017-18.pdf>
- [https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/ISGEC\\_0515\\_001.pdf](https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/ISGEC_0515_001.pdf)
- [https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/ISGEC\\_0516\\_001.pdf](https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/ISGEC_0516_001.pdf)
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/NAAC%20PROOFS-PLACEMENT.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/NOTICE-%20list%20of%20selected%20students%202015-Honda.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/NOTICE-%20list%20of%20selected%20students%202015.pdf>
- [https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/placement%20data\\_%20Home%20Science.pdf](https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/placement%20data_%20Home%20Science.pdf)
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/Placement%20of%20B.Tech.-2018-%20FT%20in%20Gupta.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/Placement%20Summary.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/Placement%20Summary17.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/Placement%20Summary18.pdf>
- <https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/Placement%20Summary19.pdf>
- [https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/TCS%20Final%20Result\\_Faculty%20of%20Engg,%20Dayalbagh%20Univ,%20Agra.pdf](https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/TCS%20Final%20Result_Faculty%20of%20Engg,%20Dayalbagh%20Univ,%20Agra.pdf)
- [https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/TCS%20Final%20Selection\\_Dayal%20Bagh\\_2015-16.pdf](https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/TCS%20Final%20Selection_Dayal%20Bagh_2015-16.pdf)
- [https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/TCS%20Final%20Selection\\_Dayal%20Bagh\\_2016-17.pdf](https://www.dei.ac.in/dei/files/NAAC%20Self%20Qualitative%20Assessment/Placement%20Data%202.3.1/TCS%20Final%20Selection_Dayal%20Bagh_2016-17.pdf)

## Results of Competitive Exams as proof of Teaching Learning

- <https://www.dei.ac.in/dei/files/NAAC/DVV/5.2.3%20NET%20GATE%20FINAL%20PROOF.pdf>

## Photographs

- [https://www.dei.ac.in/dei/index.php?option=com\\_content&view=article&id=859&catid=2](https://www.dei.ac.in/dei/index.php?option=com_content&view=article&id=859&catid=2)  
(See section 7.1.10, 7.1.11)

## Virtual Labs

[https://www.dei.ac.in/dei/index.php?option=com\\_content&view=article&id=833&Itemid=403](https://www.dei.ac.in/dei/index.php?option=com_content&view=article&id=833&Itemid=403)

## eContent Developed by DEI (SWAYAM, e-PG-Pathshala etc.)

- <https://www.dei.ac.in/dei/files/NAAC/4.2.7%20eContent%20developed%20at%20DEI%20by%20teachers.pdf>

**Vidyaprasar**

- <http://vp.dei.ac.in/>

**Student Conferences**

- [https://www.dei.ac.in/dei/index.php?option=com\\_content&view=article&id=47&Itemid=297](https://www.dei.ac.in/dei/index.php?option=com_content&view=article&id=47&Itemid=297)

**Quantum and Nano Computing Virtual Center**

- <https://www.dei.ac.in/dei/quantumNano/>

**(i-c-n-c) TALL**

- <https://www.dei.ac.in/dei/files/icnc-TALL.pdf>

**Multimedia Laboratory**

- <https://www.dei.ac.in/dei/files/Multimedia%20Technology%20Initiatives.pdf>

**DEI Quantum Jugaad**

- <https://www.dei.ac.in/dei/arts/index.php/programmes-2/qa>

**BVoc Programmes**

- <https://www.dei.ac.in/dei/admission/index.php/important-links/115-bachelor-of-vocation-bvoc>
- <https://www.dei.ac.in/dei/arts/index.php/labs-and-infrastructure/food-processing-and-preservation>
- <https://www.dei.ac.in/dei/arts/index.php/labs-and-infrastructure/apparel-design>

**Prospectus [page 20 & Page 82] (BVoc Programs Offered)**

- [https://www.dei.ac.in/dei/admission/files/admission2019/Prospectus%20-2019-20%20\(FINAL\).pdf](https://www.dei.ac.in/dei/admission/files/admission2019/Prospectus%20-2019-20%20(FINAL).pdf)

**Community Initiatives:**

- [https://www.dei.ac.in/dei/index.php?option=com\\_content&view=article&id=859&catid=2](https://www.dei.ac.in/dei/index.php?option=com_content&view=article&id=859&catid=2)  
(See section 7.1.10, 7.1.11)
- <https://www.dei.ac.in/dei/files/NAAC/DVV/7.1.10%20Number%20of%20Specific%20initiatives%20to%20address%20locational-3-2.xlsx>