

GOVERNMENT COLLEGE (AUTONOMOUS), RAJAHMUNDRY

(Accredited by NAAC with “A+” Grade)

DEPARTMENT OF COMPUTER SCIENCE & APPLICATIONS

Board of Studies Dated: 30 August 2023

Board of studies Meeting is held at Digihub in the Department of Computer Science, Govt. College (A), Rajahmundry with the following agenda.

Agenda:

- Approval of Proposed Single Major Programs for the Academic Year 2023-24
- Approval of Program Structure for the Single Major Programs
- Designing Program Specific Outcomes for Proposed Single Major Programs:
 - B.Sc. (Honors) in Computer Science
 - B.Sc. (Honors) in Artificial Intelligence
- Designing Course Outcomes and Course Objectives in line with Program Specific Outcomes
- Curriculum Design for all the Semesters for Proposed Single Major Programs:
 - B.Sc. (Honors) in Computer Science
 - B.Sc. (Honors) in Artificial Intelligence
- Curriculum Design for all the Semesters for Minor Programs:
 - Data Science
 - Computer Science
 - Computer Applications for Non-Mathematics Major Students
 - Artificial Intelligence
- Curriculum Design for all the Semesters for B.Com (Computer Applications)
- Identifying and including components of Skill Development, Employability, and Entrepreneurship in the curriculum with unit wise Activities
- Approval of Syllabus for the Courses already in exists in Three major Programs
- Incorporation of additional inputs into the curriculum
- Designing Model Question Papers and identifying potential paper setters
- Innovative Teaching – Learning Methodology (Learner-Centric)
- Curriculum for the Certificate Courses
- Academic activities of the Department for the Academic year 2023-24
- Any other proposals with the permission of the chair

(Suneel Kumar Duvvuri)

CHAIRMAN

BOARD OF STUDIES

Meeting Minutes and Resolutions

The members of the Board of Studies convened on the **30 August 2023** at the Department of Computer Science & Applications under the under the Chairmanship of Suneel Kumar Duvvuri, Lecturer In-charge. The meeting commenced promptly at 11:00 AM, with the primary purpose of addressing the various items listed on the agenda for discussion.

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Before commencing the meeting, Mr. Suneel Kumar Duvvuri, the Chairman, extended a warm welcome to all the attendees and took a moment to introduce each member to the board. He provided the board members with an overview of the Undergraduate (UG) and Postgraduate (PG) programs currently offered by the Department of Computer Science under the existing three-major system. He highlighted the significant shift made in the academic year 2020-21, where the UG programs were extended to a four-year duration instead of the previous three-year format. He emphasized the imperative need to revamp these programs and their structures to align with the New Education Policy 2020 and the reforms advocated by the Andhra Pradesh State Council for Higher Education. He further informed the committee that these reforms had been officially adopted by the Affiliating University, Adikavi Nanayya University, Rajamahendravaram.

To facilitate a constructive discourse on the agenda items for the meeting, Mr. Suneel Kumar Duvvuri initiated the session by presenting the Draft Board of Studies (BoS) document, marking the commencement of the deliberations.

Agenda Point 1: Approval of Proposed Single Major Programs for the Academic Year 2023-24

Discussion:

The Chairman presented an intensified effort to introduce four-year undergraduate programs in line with the guidelines outlined in the National Education Policy (NEP-2020). The department has undertaken a comprehensive redesign of the curricular framework for these four-year honors undergraduate programs, emphasizing the selection of a single major and one minor subject to enhance the quality of undergraduate courses. He highlighted the introduction of the new student-centric “Curriculum and Credit Framework for Undergraduate Programs (CCFUP)” formulated by UGC. This framework incorporates a flexible choice-based credit system, a multidisciplinary approach, and multiple entry and exit options.

The Chairman conveyed that, moving forward, undergraduate programs will be structured with only one major subject apart from three major subjects which are in vogue. During the second semester of the course, students will have the opportunity to select an additional subject as a minor. This approach allows students pursuing an honors degree to engage in in-depth study of a single major, demonstrating their ability to develop work-ready skills, which will be highly valuable to prospective employers.

Furthermore, the Chairman explained that students who complete their undergraduate studies with a minor subject will gain eligibility to pursue postgraduate (PG) studies in that specific minor subject. These minor courses will be allocated 24 credits, a prerequisite for admission into a PG program in the chosen subject area.

Following this, he proceeded to present the comprehensive curriculum framework for the proposed single major program to the board.

During the discussion, Dr. V. Persis, the University Subject Expert, inquired about the proposed single major programs offered by the department and sought clarification regarding credits and the availability of multiple entry and exit points for these programs.

In response, the Chairman explained that the department is set to introduce two programs under the single major stream starting from the Academic Year 2023-24: B.Sc (Honors) in Computer Science and B.Sc (Honors) in Artificial Intelligence.

Regarding credits and multiple entry and exit points, he elaborated that students will have the option to exit and re-enter the program after the completion of the first year, second year, and third year. Upon exiting after the first year, they will receive a Certificate in Computer Science/Artificial Intelligence. Exiting after the second year will result in a Diploma in Computer Science/Artificial Intelligence with a Minor, and upon completion of the third year, they will earn a Degree in Computer Science/Artificial Intelligence. Finally, upon completing the entire program, students will be awarded an Honors Degree in Computer Science/Artificial Intelligence.

The Chairman also provided the total credits required for each milestone:

- Total Credits Required for Certificate in Computer Science: 46
- Total Credits Required for Diploma in Computer Science with a Minor: 98
- Total Credits Required for Degree in Computer Science: 136
- Total Credits Required for Honors Degree in Computer Science: 180

Mr. K. Vasantha Kumar, the Industrial Subject Expert, raised a query regarding the feasibility and potential challenges for the college in implementing the multiple entry and exit system.

In response to this query, the Chairman clarified that the college has already joined with the UGC-Academic Bank of Credits, which streamlines the process and facilitates the seamless implementation of the multiple entry and exit system.

The Board dedicated a significant amount of time to discuss this agenda point and subsequently approved the introduction of two Single Major Programs i.e., B.Sc. (Honors) in Computer Science and B.Sc. (Honors) in Artificial Intelligence

Resolution:

The proposed introduction of two Single Major Programs, namely B.Sc. (Honors) in Computer Science and B.Sc. (Honors) in Artificial Intelligence, is hereby approved.

Agenda Point 2: Approval of Program Structure for the Single Major Programs

Discussion:

Continuing the discussion on Agenda Point 1, Chairman Mr. Suneel Kumar Duvvuri elaborated on the structure of the proposed programs. He outlined the number of courses that students will undertake in each semester and the corresponding credits allocated for each course. Additionally, he emphasized the inclusion of mandatory Community Service Projects between the second and third semesters, as well as compulsory Summer Internships between the fourth and fifth semesters.

Furthermore, he highlighted a crucial aspect of the program, mentioning that students will be required to complete one entire semester, either in the fifth or sixth semester, as an internship with an industry. This hands-on experience aims to provide students with valuable research and work experience in a real-world setting.

The Chairman further highlighted that, alongside the Major and Minor Programs, the curriculum encompasses Ability Enhancement Courses, Multi-disciplinary Courses, and Skill Enhancement Courses, integrated across various semesters. The overarching goal of this holistic approach to education is to equip our students with a well-rounded and versatile skill set, preparing them effectively for their academic and professional endeavors.

One of the External Subject Experts, Mr. R V Satyanarayana, sought clarification regarding the number of Ability Enhancement Courses, Multi-Disciplinary Courses, and Skill Enhancement Courses within the entire curriculum.

In response to this query, the Chairman provided a clear and visual clarification by presenting a slide from the curriculum framework, which outlined the specific details and distribution of these courses throughout the program.

Another Subject Expert, Dr. N Sridhar, brought up the topic of blended learning. In response, the Chairman explained that the curriculum framework already includes two mandatory Open Online Transdisciplinary Courses, scheduled for the seventh and eighth semesters.

The members engaged in an extensive discussion on the proposed comprehensive program structure, spent substantial time to deliberation.

Resolution:

It is resolved to Approve the Program Structure for B.Sc (Hons) – Computer Science and B.Sc (Hons) – Artificial Intelligence

Agenda Point 3: Designing Program Outcomes for Proposed Single Major Programs

Discussion:

The discussion on this Agenda Point commenced with a collective emphasis on the need for clear, industry-aligned, and adaptable outcomes for B.Sc. (Honors) in Computer Science and B.Sc. (Honors) in Artificial Intelligence. The Subject Expert from University- Dr V. Persis stressed the importance of integrating ethical and societal dimensions into these outcomes, using diverse assessment methods, and fostering a culture of continuous improvement through periodic reviews and feedback mechanisms.

All participating members actively collaborated in the process of designing Program Specific Outcomes (PSOs) with a dedicated emphasis on Graduate attributes tailored to the proposed single major programs.

Resolution:

It is resolved to Approve the Designed Program Specific Outcomes Proposed Single Major Programs: B.Sc (Hons) – Computer Science and B.Sc (Hons) – Artificial Intelligence

Agenda Point 4: Curriculum Design for all the Semesters for Proposed Single Major Programs

The Chairman provided a thorough overview of the entire course curriculum planned for B.Sc (Hons) - Computer Science. He meticulously elucidated the Course Objectives and Outcomes for each individual course, underscoring the program's strong focus on student-centric learning. He also emphasized that every unit within the course incorporates one Co-Curricular activity with assessment methodology for fostering an active and engaging learning experience for our students.

The Chairman elaborated on the inclusion of multi-disciplinary units within the two major courses offered in Semester I. These units are strategically designed to provide students with a comprehensive understanding of the fundamental concepts they have learned in their pre-degree courses. Additionally, these units serve as bridge courses, facilitating greater clarity for students when selecting their minor subject in Semester II.

The External Subject Expert, Dr. N Sridhar, raised a query regarding the introduction of Cryptography concepts in Semester I. In response, the Chairman clarified that while Cryptography concepts will be included, they will be taught at an elementary level to provide students with a basic understanding, rather than delving into detailed algorithmic approaches.

The External Subject Expert, Mr. R V Satyanarayana, suggested implementing a choice-based curriculum for the students' benefit. The Chairman provided clarification, stating that students will have the opportunity to exercise choice during Semester V, as well as in Semesters VII and VIII. In these semesters, students will have access to a pool of courses from which they can select, offering them a degree of flexibility in tailoring their academic path to their preferences and interests.

During the discussion, Mr. Vasanth Kumar, an industry expert, expressed appreciation for the department's initiative in introducing advanced courses that align with industry needs and offer significant opportunities for students in the job market.

Afterwards, Mr. Devaraju H, the Course Coordinator for B.Sc (Hons) – Artificial Intelligence, presented the curriculum for all semesters of the program and invited the members for discussion.

After a thorough examination of all the courses and their respective curricula for both programs, the members made the following resolutions:

Resolution:

1. It is resolved to approve All the Courses introduced in the Curriculum for B.Sc (Hons) – Computer Science
2. It is resolved to approve All the Courses introduced in the Curriculum for B.Sc (Hons) – Artificial Intelligence

Agenda Point 5: Curriculum Design for all the Semesters for Minor Programs

Discussion:

Smt. U Sandhya Rani, a member of the Board and Subject Expert from the department, shared to the board that the department is planning to offer four minor programs, which include Data Science, Computer Applications for Non-Mathematics Stream Major students, as well as minors in AI and Computer Science. She elaborated on the meticulous design of these minors, emphasizing their capacity to provide students with vertical mobility. This means that students who complete these minors will have the opportunity to pursue postgraduate studies in their chosen minor fields, building upon the foundation laid by the six courses they studied as part of the minor programs.

In response to a query raised by the External Subject Expert, Dr. N. Sridhar, regarding whether students majoring in Computer Science or Artificial Intelligence can choose Data Science/AI/Computer Science as minors, Chairman Mr. Suneel Kumar clarified that these minors are not intended for students majoring in Computer Science or Artificial Intelligence. Instead, they are designed to be available for students from other major disciplines

The Board engaged in a comprehensive discussion regarding the curricula for the Minor Courses and subsequently granted approval for all the minor programs and the courses offered within each program.

Resolution:

1. It is resolved to approve the four Minor programs (Data Science, Computer Applications for Non-Mathematics, Computer Science, Artificial Intelligence) offered by the department

2. It is resolved to approve All the Courses introduced in the Curriculum for Data Science Minor
3. It is resolved to approve All the Courses introduced in the Curriculum for Computer Applications for Non-Mathematics-Minor
4. It is resolved to approve All the Courses introduced in the Curriculum for Computer Science-Minor
5. It is resolved to approve All the Courses introduced in the Curriculum for Artificial Intelligence-Minor

Agenda Point 6: Curriculum Design for all the Semesters for B.Com (Computer Applications)

The Chairman presented the courses intended for the B.Com (Computer Applications) program, outlining that a total of six Computer Applications courses will be integrated into the entire curriculum of B.Com (Computer Applications) spanning Semesters I to VI. Subsequently, the Chairman welcomed discussions on this matter.

During the deliberations, the university nominee inquired about whether these courses would incorporate practical components. In response, the Chairman confirmed that all six courses are designed to include practical elements.

Following a detailed and thorough discussion, the Committee collectively approved the curriculum for the B.Com (Computer Applications) program.

Resolution:

It is resolved to approve the curriculum of the all the courses designed for B.Com (Computer Applications) for I to VI Semesters

Agenda Point 7: Approval of Syllabus for the Courses already in exists in Three major Programs

Discussion:

The Chairman conveyed to the board that the curriculum for the existing programs under the three-major system for the students admitted during the academic year 2021-22 and 2022-23 will remain unchanged for the upcoming academic year (2023-24), following the same format

and structure as approved in the previous Board of Studies (BoS) meeting for the academic year 2022-23.

All the members unanimously voiced their agreement to approve the syllabus for the programs offered by the Department of Computer Science under the three-major system, in alignment with the previously approved curriculum from the previous Board of Studies (BoS) meeting.

Resolution:

It is resolved to approve the same curriculum of the all the courses for the existing three major programs designed and approved in previous BoS meeting held for the Academic Year 2022-23.

Agenda Point 8: Designing Model Question Papers and identifying potential paper setters

Discussion:

All members actively participated in the process of identifying subject experts and compiling a list of examiners and paper setters for the Semester End Examinations. The Board went on to have an in-depth discussion on the blueprint of the question papers for the Semester End Examinations (SEE) and Practical examinations. Valuable suggestions from all members were thoroughly considered and incorporated into the final blueprint, ensuring a comprehensive and well-structured examination format.

Resolution:

1. It is resolved to approve the list of examiners and paper setters for the Academic Year 2023-24
2. It is resolved the blue print of the Question papers of SEE and Practical Examinations

Agenda Point 9: Innovative Teaching – Learning Methodology (Learner-Centric)

Discussion:

Under the agenda point of Innovative Teaching – Learning Methodology (Learner-Centric), the Chairman introduced a series of innovative approaches aimed at enriching the educational experience. Firstly, he proposed the incorporation of Virtual Labs, which would provide students with valuable hands-on experiences in a virtual environment. This addition aims to

offer students a unique opportunity to experiment and learn complex concepts without the constraints of physical laboratories.

Secondly, as a means of broadening students' educational exposure, it was proposed that at least one course from the available in a year offering be mapped to platforms like SWAYAM/NPTEL.

During the discussion, the University nominee Dr V.Persis raised important concerns related to the financial burden on students accessing SWAYAM resources and the effectiveness of faculty in monitoring student progress. Regarding the financial aspect, the Chairman clarified that as the college operates as a local chapter for SWAYAM and he serves as the Single Point of Contact (SPOC), he has the authority to request fee waive off for students. To address concerns about student progress monitoring, the Chairman suggested the inclusion of mentors in SWAYAM. These mentors would play a crucial role in enhancing the online monitoring process, providing students with guidance and support as they progress in their studies.

All the members welcomed these proposals and expressed their support.

Resolution:

It is resolved to approve the proposed Innovative Teaching – Learning Methodology (Learner-Centric).

Agenda Point 10: Curriculum for the Certificate Courses

Discussion:

The member of the department and Certificate Course Coordinator Smt U. Sandhya Rani put forth a proposal to introduce a 60-hour certificate course on “Data Analytics with Excel” for students across the college. She presented the curriculum for this course, and after a thorough discussion, the curriculum was carefully reviewed and unanimously agreed upon for offering.

Resolution:

It is resolved to approve the Certificate Course on “Data Analytics with Excel” for the academic year 2023-24

Agenda Point 11: Academic activities of the Department for the Academic year 2023-24

Discussion:

The Chairman presented a comprehensive list of important days and activities planned by the department for the academic year 2023-24. After a thorough discussion, the Board members reached a consensus on not only including these important days and activities but also organizing two national seminars on Ethical Hacking and Mobile App Development, as well as two workshops on Data Science and Blockchain & Cryptocurrency. The Board also meticulously calculated the estimated budget required for organizing these events and approved the allocation of funds from Internal resources of the college for their successful execution.

Resolution:

1. It is resolved to organize two National Level Seminars on Ethical Hacking and Mobile App Development.
2. It is Resolved to organize two National Level Workshops on Data Science and Blockchain & Cryptocurrency

Agenda Point 12: Any other with the permission of the chair

a) Tentative topics for Community Service Project:

The Chairman presented a list of 20 Community Service projects to be conducted by the students after completing their II Semester and sought the opinion of the members. It is worth noting that all members unanimously and formally agreed to the proposed list of projects.

Finally, the meeting concluded with a gracious Vote of Thanks delivered by the Chairman Mr Suneel Kumar Duvvuri. He expressed his heartfelt appreciation to all the department members for their unwavering support in shaping the curriculum into its final form. Furthermore, the Chairman extended his gratitude to the University Nominee, Dr. V Persis, and the External Subject Experts, Dr. N Sridhar and Mr. R V Satyanarayana, as well as the Industrial Subject Expert, Mr. Vasanth Kumar, for their invaluable suggestions and thoughtful deliberations.

(Suneel Kumar Duvvuri)
CHAIRMAN
BOARD OF STUDIES

