



Computer Science Education Advisory Commission Meeting

May 3, 2023

Agenda

- I. Call to order
- II. Roll call
- III. Approval of Minutes from February 1, 2023
- IV. Consideration of the status report of stakeholder feedback
- V. Consideration of a proposal for a framework for a computer science certification endorsement
- VI. Consideration of additional 2023 Computer Science Education Advisory Commission meeting dates
- VII. Consideration of a recommendation to establish a computer science K-12 content standards writing committee
- VIII. Consideration of a proposal regarding the coordination of computer science education between K-12, postsecondary institutions, and the workforce
- IX. Consideration of a discussion regarding computer science as a foreign language

Computer Science (CS) Education Advisory Commission

[Louisiana Act 541](#) (2022), the Computer Science Education Act, establishes the Computer Science Education Advisory Commission to **provide recommendations** to the State Board of Elementary and Secondary Education through the Department of Education for the **development and implementation of a state action plan** for the delivery of education in computer science in all public schools.



CS Education Advisory Commission Purpose

Recommendations must address

- K-12 state content standards for computer science;
- coordination of CS education among K-12, postsecondary institutions, and workforce;
- CS requirement for high school graduation, postsecondary entrance, and TOPS
- comprehensive teacher training;
- technical assistance grants to schools; and
- funding strategies for teacher training and program expansion.

**Vote to approve the minutes
from February 1**

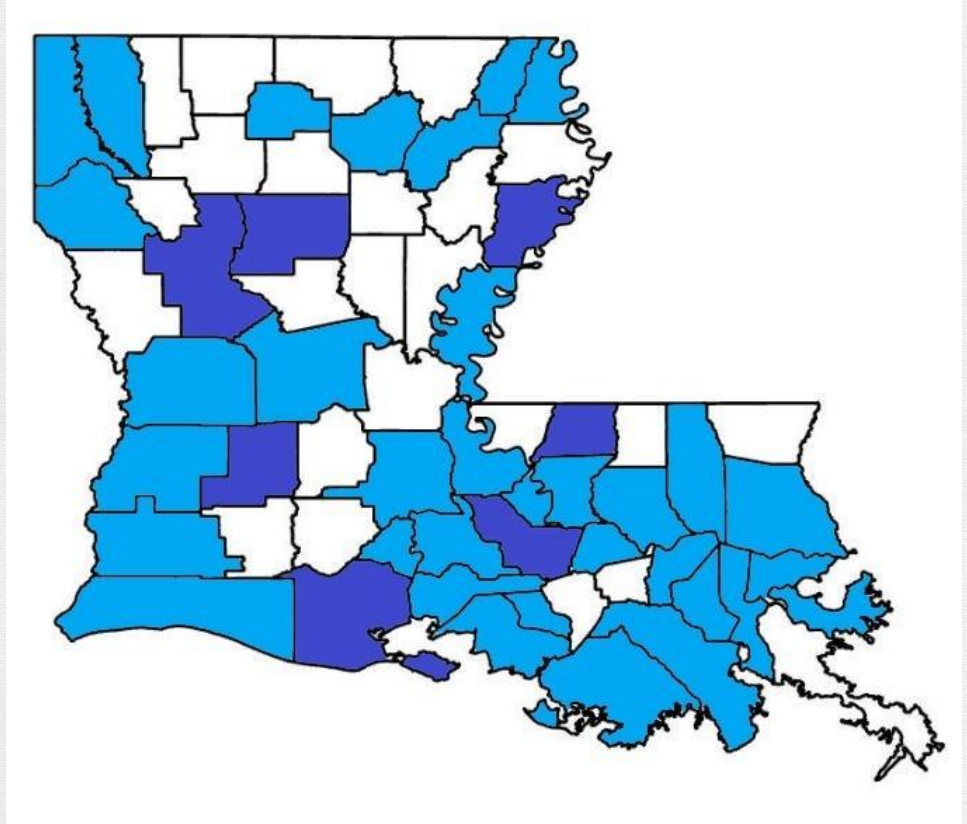


Consideration of Status Report of Stakeholder Feedback



CS Feedback Updates

- The Department has continued engaging with individual stakeholders. We are now representing feedback from **40** of the 64 parishes in the state.
- Virtual stakeholder listening sessions and an [updated survey](#) will continue to be used.
- A listening session will occur at the [2023 Teacher Leader Summit](#) May 30 - June 1.



Superintendents' Computer Science Listening Session

- Framework and standards
 - use a progression to build the learning for K-12
 - keep requirements agnostic in terms of different devices, programming languages, platforms
- Provide guidance for
 - class scheduling
 - embedding CS into current course offerings
 - vetting programs and curricula
 - parent and guardian communication regarding implementation and generational learning gaps
 - visualizing CS instruction in the classroom for teachers
- Consider
 - time and funding for teacher training
 - time needed for future CS standards implementation

April 2023 Listening Session Feedback

Summary of feedback data gathered during the April listening sessions regarding the 5 Core Concepts and 7 Core Principles from the National K-12 Computer Science Framework

- emphasized the importance of providing multiple access points based upon student and teacher skill throughout each session
- expressed the importance of connecting academic instruction to workforce skills
- recognized the importance of mentorship opportunities for students and teachers
- viewed starting CS in early grades as important
- emphasized importance of connecting CS learning to real-life skills, including those in other content areas

April 2023 Listening Session Feedback

Overall, teacher feedback on attaining CS certification coalesced around these three points:

1. Computer science certification should be funded to incentivize teacher engagement and to bring value to teaching CS.
2. Professional learning needs to be prioritized and made widely available.
3. Certification and training need to be offered in a way that is time efficient and flexible.

**Consideration of receiving the
proposal for a framework for a
computer science certification
endorsement**



Recommendations and Feedback for Adding a CS Teacher Certification to a Current Practicing Teacher's License

Part I: Utilize a micro-credential portfolio in computer science along with cohort collaboration for current **K-5 teachers** and media specialists.

Feedback

- micro-credential
 - **not** limited to a single vendor
 - the Department provides guidelines and monitors the implementation of the guidelines by the institutions
 - utilize a micro-credential that is broken down by grade bands
 - K-5
 - 6-8
 - 9-12

Recommendations and Feedback for Adding a CS Teacher Certification to a Current Practicing Teacher's License

Part II: Utilize the Praxis II Computer Science content exam (5652) **OR** a micro-credential portfolio to allow **6-12 teachers** to add on to their Louisiana certification to teach Computer Science.

Feedback

- provide the Praxis option and the micro-credential option; teachers select the option they would like to use to obtain certification
- micro-credential
 - **not** limited to a single vendor - the Department provides guidelines and monitors the implementation of the guidelines by the institutions
 - breakdown by grade bands (K-5, 6-8, 9-12)
 - 9-12 courses taught in 6-8 would require teachers to have 9-12 certification
- additional options besides the Computer Coding as a World Language option for add-on certification
- utilize Praxis II CS content exam

Recommendations for CS Teacher Certification

Part III Add the computer science certification for non-certified teachers who are part of an alternative certification program utilizing the previously approved Louisiana CS Framework and future Louisiana CS Standards

Part IV For pre-service university baccalaureate degree programs, it is recommended to align the standards for a computer science endorsement to the Louisiana CS Framework and future Louisiana CS Standards.

Part V The requirements to teach courses in the Louisiana STEM Pathways for Computing, Cybersecurity, and Digital Design and Emergent Media would

- continue to allow any certified teacher to successfully train and teach the pathway, provided the course remains unchanged and
- STEM Pathway providers would be encouraged to align their training and content to the Louisiana CS Framework and future Louisiana CS Standards.

CS Teacher Certification Specific Course Program Recommendations

Part VI Advanced Placement (AP) Computer Science A, AP Computer Science Principles, and International Baccalaureate (IB) Computer Science courses

- teacher successfully completes an approved training provider program and possess a 6-12 Computer Science teacher certification

Feedback

- continue allowing teachers certified in 9-12 mathematics to teach AP Computer Science A and AP Computer Science Principles after completing College Board training

Additional CS Teacher Certification Feedback

- consider utilizing 2-year associate-level college programs to certify K-12 CS teachers.

Updated Proposal

Part I Add the Computer Science certification to a **K-5 Louisiana teaching license**:

- utilize a micro-credential portfolio in computer science along with cohort collaboration for current K-5 teachers and media specialists
 - i. micro-credential be broken down into grade bands (K-5, 6-8, and 9-12)
 - ii. Courses for high school credit in a middle school be taught by someone who has the 9-12 certification
 - iii. Recommend that the micro-credential be open to multiple vendors, monitored by the Department
- Add a recommendation that secondary CS certification be broken down into 6-8 and 9-12

Part II Add the Computer Science certification to a **6-12 Louisiana teaching license**:

- utilize the Praxis II Computer Science content exam (5652) **OR** a micro-credential portfolio to allow teachers to
 - add on to their Louisiana certification in Computer Science
 - teach Computer Coding as a World Language
 - Recommend that the micro-credential be open to multiple vendors, monitored by the Department

Will be discussed in a future meeting

- provide funding guidance for
 - teacher professional learning
 - a first attempt at the Praxis II Computer Science content exam (5652) **OR** a first attempt to earn the micro-credential
 - a first attempt at the IBC exam

Updated Proposal

Part III Add the Computer Science certification for non-certified teachers who are part of an **alternative certification program**:

- Utilize the following:
 - the previously approved Louisiana Computer Science Framework
 - future Louisiana Computer Science Standards

Part IV For **pre-service university** Computer Science baccalaureate degree programs it is recommended to:

- Align the standards for initial teacher certification with a Computer Science endorsement to the Louisiana Computer Science Framework and future Louisiana Computer Science Standards.

Part V The requirements to teach courses in the **Louisiana STEM Pathways for Computing, Cybersecurity, and Digital Design and Emergent Media** would:

- continue to allow any certified teacher to successfully train and teach the pathway, provided the course remains unchanged
- encourage the STEM Pathway providers to align their training and content to the Louisiana Computer Science Framework and future Louisiana Computer Science Standards.

Updated Proposal

Part VI Revised recommendation: To teach an **AP Computer Science Principles** or **AP Computer Science A** course or an **International Baccalaureate Computer Science** course:

- require teachers teaching AP Computer Science Principles or AP Computer Science to successfully complete the approved College Board training program and hold a valid teaching certificate

Add - Part VII: consider a recommendation of how certification of teachers currently teaching computer science courses can be grandfathered in.

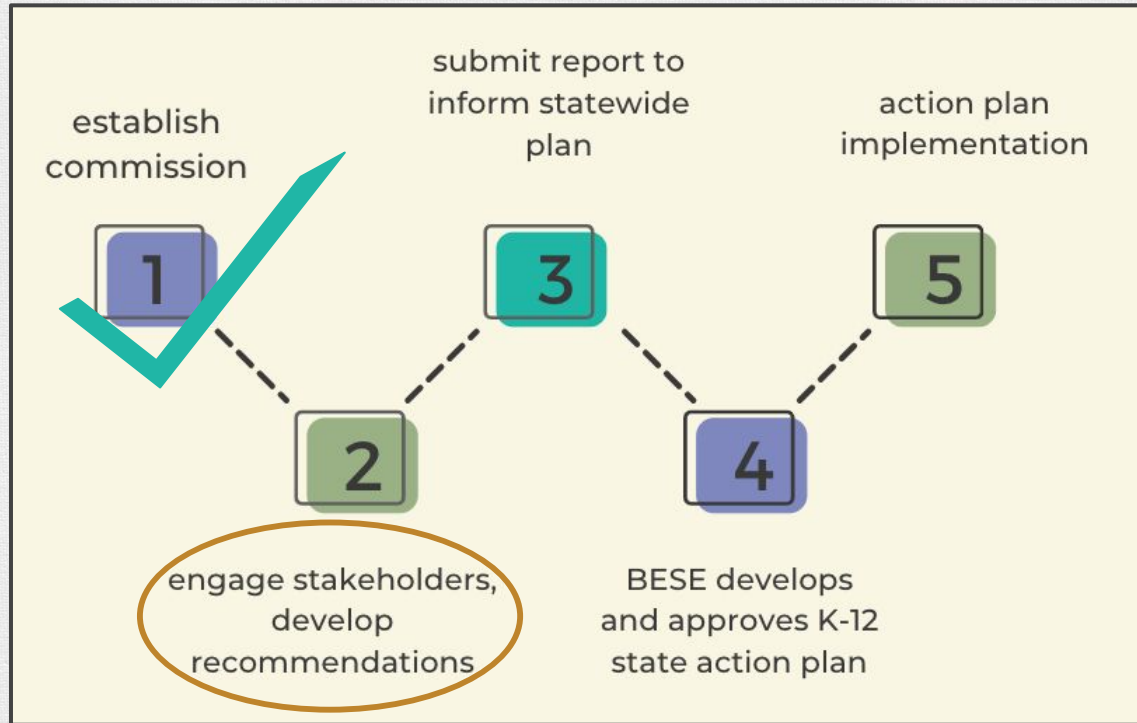
Vote to endorse the [proposal](#) for a
framework for computer science
teacher certification endorsement



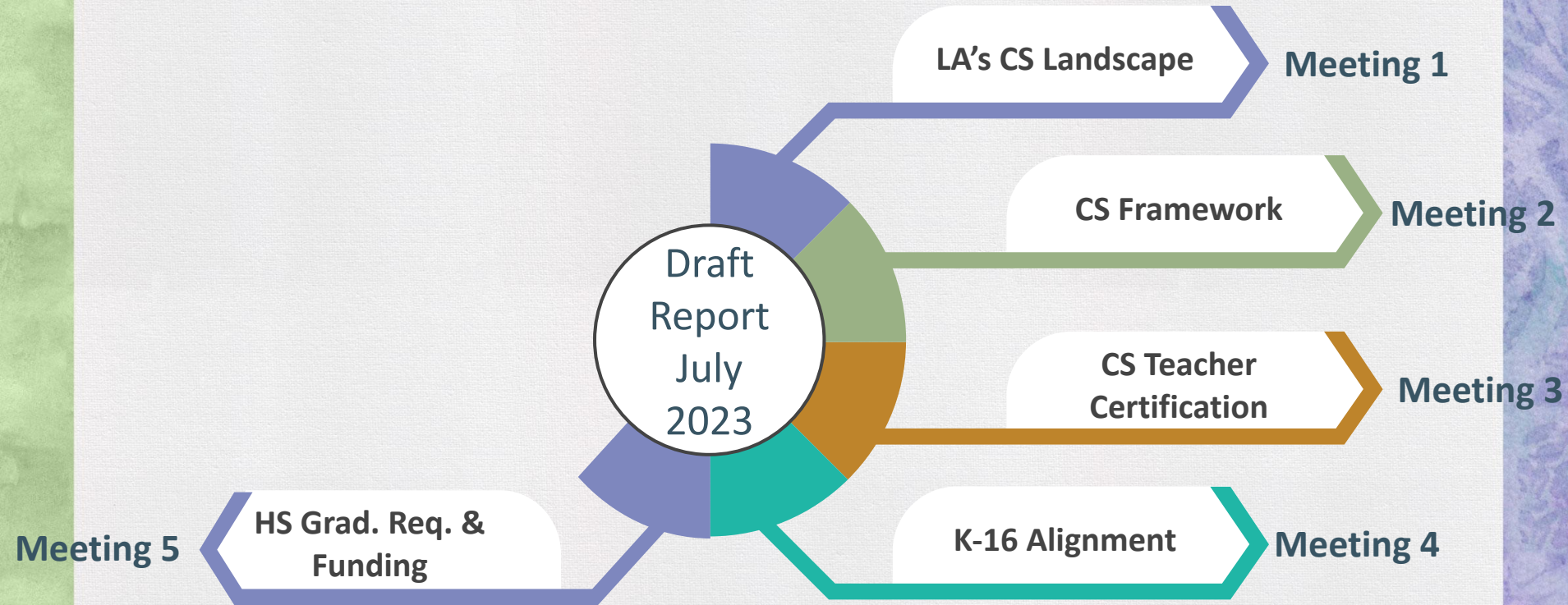
**Consideration of additional 2023
Computer Science Education Advisory
Commission meeting dates**



CS Education Advisory Commission Roadmap



Developing The Components of a Draft Report



Additional Meeting Dates

To complete the recommendation report and fulfill the requirements of Act 541 in the required timeframe, it is necessary to add two meetings to the scheduled series.

The proposed additional meeting dates are as follows:

- June 28 1 p.m. to 4 p.m.
- July 25 1 p.m. to 4 p.m.

This will ensure the commission is in a posture to approve the report at the August 2 meeting.

**Vote to receive the additional 2023
Computer Science Education Advisory
Commission meeting dates**

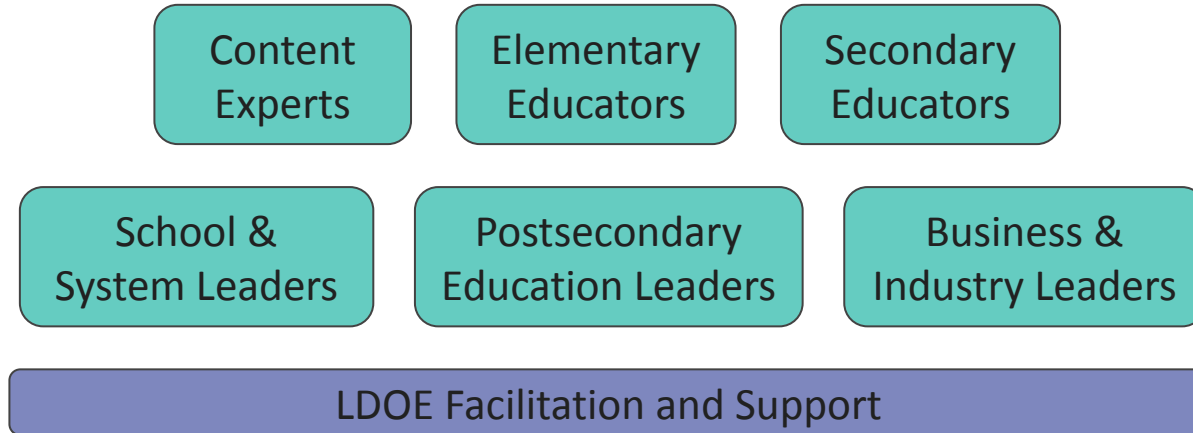


**Consideration of a recommendation to
establish a computer science K-12
content standards writing committee**



Content Standards Process: Initiation

In Louisiana, BESE initiates and sets the priorities for the standards setting/review process, and the Department facilitates that process.



Content Standards Process: Self-Nomination Application

LOUISIANA DEPARTMENT OF EDUCATION ACCEPTING APPLICATIONS FOR SOCIAL STUDIES STANDARDS REVIEW COMMITTEES

Dec 18, 2020

BESE voted to review Louisiana Student Standards for Social Studies during December meeting

BATON ROUGE, La. -- The Louisiana Department of Education is inviting stakeholders to help update the state's social studies standards. The Board of Elementary and Secondary Education (BESE) voted to review the Louisiana Student Standards for Social Studies during its meeting Wednesday. The Department is accepting applications for members of the standards review committees. All interested Louisiana teachers, school administrators, parents, students, and community members are encouraged to apply. The deadline for submissions is February 1 at 8 a.m.



LDOE @La_Believes · Dec 18, 2020

Participate in a review of the Louisiana social studies standards. Louisiana teachers, staff, administrators, parents, students, and community members are encouraged to apply. #LouisianaBelieves #LaEd [ow.ly/bOvK50CPGl](https://www.louisiana.gov/education)



Louisiana Department of Education

December 18, 2020 · 🌐

We're inviting our stakeholders to participate in a review of the Louisiana Student Standards for Social Studies. All interested Louisiana teachers, school system staff, administrators, parents, students, and community members are encouraged to apply for our standards review committees. The deadline is February 1 at 8 a.m. #LouisianaBelieves

DEPARTMENT OF
EDUCATION
Louisiana Believes

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LOUISIANA DEPARTMENT OF
EDUCATION ACCEPTING APPLICATIONS
FOR SOCIAL STUDIES STANDARDS
REVIEW COMMITTEES

BATON ROUGE, La. -- The Louisiana...

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Sample Scoring Process

- Eight people from four teams within the Department (Educator Development, Academic Content, Assessment Development, School Improvement) reviewed the applications using a rubric that reflected the goals outlined by BESE for the review in December 2020.
- Each application (after having identifying information removed) received multiple reviews. The scores were averaged and ranked from lowest to highest.
- The ranked applications were separated by geographical region to ensure that the committee would be comprised of teachers and stakeholders from all parts of Louisiana.

Content Standards Process: Participation from the Public

BESE provides participation opportunities to the parents of Louisiana school children and the general public in multiple modalities.

Participation may occur through any of the following:

- online review options
- during on-going BESE updates
- during standard review or setting committee meetings

K-12 CS Standards Development Recommendation

- Recommend that BESE initiate the standards setting process and charge the Department with establishing a K-12 Computer Science Standards Committee utilizing the previously approved Louisiana Computer Science Framework
- Solicit nominations of committee volunteers, including but not limited to the following:
 - several education associations
 - local school systems
 - stakeholder organizations representing parents
 - business and industry leaders
- Standards writing process should be led by
 - content experts
 - elementary and secondary educators
 - postsecondary education leaders
 - business and industry leaders
- Provide participation opportunities to the public, both through online review options and in standard review committee meetings
- Recommend that the standards committee create broad, high-level standards and consider appropriate time for review

**Vote to endorse the recommendation
to establish a computer science K-12
content standards writing committee**



**Consideration of a proposal regarding
the coordination of computer science
education between K-12,
postsecondary institutions, and the
workforce**



Pre-College Foundational Computer Science

- Given the wide array of careers and degree programs available to students and the various skills needed for such programs, the following skills and knowledge areas are recommended for inclusion in 9-12 CS:
 - coding
 - programming
 - data analysis techniques
 - cybersecurity and risk management
 - hardware and software basics
 - math and problem solving skills
 - soft skills such as communication, time management, organization, and creativity

DUAL ENROLLMENT IS NOW A PATHWAY

THE FOLLOWING REVISED MINIMUM ADMISSIONS STANDARDS APPLY TO STUDENTS UNDER THE AGE OF 25.



18 EARLY COLLEGE ACADEMIC CREDIT HOURS
OR ASSOCIATE DEGREE
OR REQUIRED GPA *OR* ACT



15 EARLY COLLEGE ACADEMIC CREDIT HOURS
OR ASSOCIATE DEGREE
OR REQUIRED GPA *OR* ACT



12 EARLY COLLEGE ACADEMIC CREDIT HOURS
OR ASSOCIATE DEGREE
OR REQUIRED GPA *OR* ACT



9 EARLY COLLEGE ACADEMIC CREDIT HOURS
OR ASSOCIATE DEGREE
OR REQUIRED GPA *OR* ACT

* AND Meets minimum Mathematics/
English placement requirements

NOTE: Community Colleges are open
admissions



TO ENTER COLLEGE IN LOUISIANA



BOARD of REGENTS
STATE OF LOUISIANA

FOR MORE INFORMATION ON DUAL ENROLLMENT OPPORTUNITIES, VISIT LADUALENROLLMENT.COM

TRANSFER PATHWAYS IN LOUISIANA



Educate, Innovate, and Collaborate



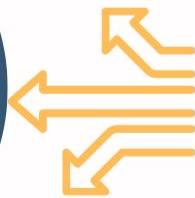
BOARD OF REGENTS *charge*

2022 legislative session - Senate Bill 261

Charges the Regents to develop, coordinate, and maintain transfer pathways for baccalaureate programs that are highly demanded across the state

Transfer Pathways

One way the Regents are working to double the number of working adults in Louisiana with meaningful, market-relevant postsecondary credentials by 2030



HIGH-DEMAND PROGRAMS

in Louisiana

- Accounting
- Art
- Biology
- Business
- Communication
- Computer Science
- Construction Management
- Criminal Justice
- Engineering
- English
- Finance
- History
- Kinesiology
- Management
- Marketing
- Nursing
- Political Science
- Psychology
- Social Work
- Sociology



These programs enrolled an average of 650 students, with the highest enrollment of 1,770 students in Nursing and lowest enrollment of 254 students in Construction Management

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Industry Based Credentials (IBCs) Currently Offered

- The [Statewide Focus List](#) is updated by the Louisiana Workforce Commission each year.
- Certifying agencies in CS
 - Adobe
 - Amazon Web Services
 - Apple
 - Certified Internet Web (CIW)
 - Certiport
 - Comp TIA
 - Information Tech Specialist - Python
 - Operation Spark
 - Oracle
 - Unity

Certifications

<input type="checkbox"/>	Certificate Name	Active Job Ads	
<input type="checkbox"/>	Secret Clearance	114,294	
<input type="checkbox"/>	Certified Information Systems Security Professional (CISSP) ★	70,734	
<input type="checkbox"/>	Project Management Professional (PMP)	59,261	
<input type="checkbox"/>	Cisco Certified Network Associate (CCNA) ★	38,432	
<input type="checkbox"/>	Certified Information Systems Auditor (CISA)	30,627	
<input type="checkbox"/>	Certified Information Security Manager (CISM) ★	26,680	
<input type="checkbox"/>	Driver's License	25,019	
<input type="checkbox"/>	Cisco Certified Network Professional (CCNP) ★	20,716	
<input type="checkbox"/>	Certified ScrumMaster (CSM)	19,550	
<input type="checkbox"/>	Microsoft Certified Solutions Expert (MCSE) ★	16,115	

Source: JobsEQ®

Data reflect online job postings that were active from 4/12/2022 to 4/12/2023

See JobsEQ online Help for important Technical Notes

Max Rows: 10

17

IBC Options in Other States

IBCs offered by neighboring states

- Cisco Certified Cyber Ops Associate
- Cisco Certified Network Associate
- Cisco Certified Network Professional
- Cybersecurity Fundamentals through NOCTI
- Google Cloud Certified Professional- Cloud Architect
- Information Technology Specialist Certification through Certiport
- Institute of Certification of Computing Professionals Certified Computing Professional
- Institute of Electrical and Electronics Engineers Certified Software Development Professional
- Linux Essentials

Recommendations for K-16 and Workforce Alignment

- Request that Board of Regents work to make available dual enrollment courses in alignment with transfer pathways in computer science, cybersecurity, and engineering, at minimum.
- Request the Board of Regents examine course sequences to include completion of activities associated with at least one computer science micro-credential.
- Request the Board of Regents inform institutions that they can develop pathways by which potential secondary educators may prepare for CS certification in combination with other subject areas.
- Recommend that the LDOE research possible new and emerging Industry Based Credentials (IBCs) annually, working with both the Louisiana Workforce Commission and the Board of Regents, and make appropriate adjustments to TOPS Tech and M.J. Foster, when applicable.

**Vote on receiving the proposal
regarding the coordination of
computer science education between
K-12, postsecondary institutions, and
the workforce**



**Consideration of a discussion
regarding computer science as a
foreign language**



Considerations

Possible input to Computer Science as a Foreign Language law from the Computer Science Education Advisory Commission

- recommend specific standards for coding courses that would allow for more courses to align with law
- recommend that BESE charge the LDOE with establishing a criteria for inclusion of new or additional courses to the existing law
- recommend that additional funding be allocated to build up the current group of certified 9-12 Computer Science teachers with professional learning

**Vote to receive the discussion
regarding computer science as a
foreign language**



Revisiting Our Meeting Timeline

August 3, 2022	October 27, 2022	February 1, 2023	May 3, 2023	June 28, 2023	July 25, 2023	August 2, 2023
Alignment	Framework	Teacher PL	K-16 and Career Alignment	Grad. Requirement and Funding	Report Draft	Finalize Report
	research	analyze findings			draft report	
		draft recommendations			finalize report	BESE receives October 11
		ongoing stakeholder engagement				

Meeting Schedule

Date and Time	Meeting and Location
August 3 1:30 p.m.	Meeting 1 Claiborne Building, Baton Rouge
October 27 1:30 p.m.	Meeting 2 Claiborne Building, Baton Rouge
February 1, 2023 1:30 p.m.	Meeting 3 Claiborne Building, Baton Rouge
May 3, 2023 1:30 p.m.	Meeting 4 Claiborne Building, Baton Rouge
June 28, 2023 1:00 p.m.	Meeting 5 Claiborne Building, Baton Rouge
July 25, 2023 1:00 p.m.	Meeting 6 Claiborne Building, Baton Rouge
August 2, 2023 1:30 p.m.	Meeting 7 (Finalize report draft for BESE) Claiborne Building, Baton Rouge
October 11, 2023 TBA	October BESE Meeting Claiborne Building, Baton Rouge



Adjournment

Email ashley.townsend@la.gov with questions.