

IEEE ICICLE CCC SIG Meeting Running Agenda and Notes 2022-2023

For 2024 Agenda and Notes:

[☰ CCC SIG Meeting Running Agenda and Notes 2024](#)

CCC SIG Meeting Info

Admin

- **Meeting link:** <https://us02web.zoom.us/j/2895986276>
- **Listserv:** ICICLE-CCC@LISTSERV.IEEE.ORG
 - Listserv management: <https://listserv.ieee.org/cgi-bin/wa?SUBED1=ICICLE-CCC>
 - Or to subscribe email to ListServ@ieee.org: Send an email to ListServ@ieee.org, containing the following text in the body of the message: **subscribe ICICLE-CCC YourFirstName YourLastName** (Use First Name followed by your Last Name sent from the e-mail address that you want to subscribe. The e-mail subscribe instruction does not support an e-mail address field, if you try to use an e-mail address in the Name fields it will be rejected.)
- [Email updates sent to Listserv](#)

Goals:

- 2024
 - Draft high-level domain and sub-domain levels with examples of competencies statements to get feedback at conference
- 2023
 - Identifying the high level tasks associated with the other roles on the learning engineering team just like we did for the data science role/domain. (Mostly tasks/definitions from O*Net)
 - Seeking grant funding to hire experts in task analysis to do deeper level of analysis at a more granular level

Subgroups

Working Documents

- [Project Charter/Mini-Workplan](#)
- Competency Category Survey
<https://docs.google.com/forms/d/1znGBRX1yBBVbly3Ktue0av9eB3v4zcTPpHLEaARrwW4/edit#responses>
- Brainstorm: What should people know about LE?
 - [☰ Brainstorm](#) notes on what people should know about LE
 - [Jamboard](#) notes on what people should know about LE
- [Resource folder](#)
 - 2018-2021 work [folder](#):

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- [Data Science Tasks for Learning Engineers](#) (doc)
- [Learning Engineering Categories By Flower with O*NET Tasks](#) (sheet)
- [Learning Engineering Job/Roles and Tasks from OPM](#) (sheet)

CCC SIG Meetings November 2023

Learning Sciences Sub-Group

Date: Nov 9th, 3pm ET

Link to [Learning Sciences](#) folder

Intro to LE Sub-Group

Date: Nov 14th, 11am ET

Zoom link: Welcome to the initial meeting of Intro to LE category sub-group meeting

Link to [Intro to LE folder](#)

CCC SIG Meeting 27 October 2023

Attending: Evangeline Schepper, Jodi Lis, Katherine McEldoon, Michael Jay, Zarka Ali, Jim Goodell, Monique Liles, Oliver Pincus, D'Marie Bartolf, Mei Mei

Links for today

[2023 Category list of ideas](#)

[What categories do we include in the framework? Form](#)

[Learning Sciences](#)

[Learning Engineering Resources](#)

[Jodi provided an overview of a recent framework that leveraged the above standards](#)

Agenda

- Introductions
- [Project mini-plan](#)
- Survey - [2023 Category list of ideas](#)
- Competency Framework/Primer
 - LE Primer: identify resources that align with sub-categories. Could be background, research, how-to, learning about the category.
 - Knowledge Management/Info Architecture (Notion, Wiki) - Team to discuss how to organize, disseminate and share resources
 - Wiki to organize resources
 - Use John's platform for Primer
- Two categories to start with: Learning Sciences and Learning Engineering
- Learning Science

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- Ask: come to meeting with resource or list that you think should be covered in LS space. / Please share any resources that may help us articulate the breadth of the Learning Sciences domain.
 - Add to the [Learning Sciences Competency Definition Resources document](#), and drop the resource into the [Learning Sciences competency folder](#).
- Chapter 2 in Toolkit topics
- Use framework, curriculum, primer for upskilling - coordinate PD happening such as Erin at CMU to upskill ID
 - LE not ready to issue credentials. Systems still being developed. When we are ready, they should be in a good place
 - Trackable credentials, portability, viewability in many environments, very important to be cross functional with a good solid ecosystem.
 - [PESC](#) - Postsecondary Electronic Standards Council (PESC) is an open standards-development and open standards-setting body
- Maybe we can [ABET](#) to use LE to part of their criteria for evaluating programs
 - Calculus seen as key component in engineering accreditation. How can we show how calculus is used in system engineering and other topics that are related to LE? What about modeling, statical modeling, statistics and not calculus?
 - learning calculus for better understanding how to perform analysis is much more useful and motivated
- Next steps
 - Send out follow-up email about contributing to LS and LE groups

Resources

<https://lab.vanderbilt.edu/live-lab/>

<https://www.asee.org/> Submission deadline is November 1

<https://repubitdigital.com/publication/?i=397461>

RePubIT Samplers : RePubIT Interactive Sampler (repubitdigital.com)

<https://drive.google.com/drive/u/1/folders/1qLlsP6pxiD0Fr1YU4cw3DVjzLTYzkWCN>

<https://www.t3networkhub.org/topics/digital-credentials>

<https://www.pesc.org/>

CCC SIG Meeting 29 September 2023

Attending: Evangeline Schepper, William Lynch, Jodi Lis, Michael Jay, Arleya Ashburn, Zarka Ali, Jim Goodell, Katherine McEldoon, D'Marie Bartolf, Oliver Pincus

Links for today

[2023 Category list of ideas](#)

[What categories do we include in the framework? Form](#)

IEEE ICICLE CCC SIG Meeting Running Agenda and Notes 2022-2023

[Jodi provided an overview of a recent framework that leveraged the above standards](#)

Agenda

“Presentation”

- Introductions
- Thoughts from last meeting
 - Biggest take away: Developing criteria for standards/normalization of what a LE is/was/or should be for credentialing purposes
 - Maturity model
- Draft Categories/Domains
- LE Primer
- Next steps

Learning Sciences

Knowledge and skills

CCC SIG Meeting 25 August 2023

Attending: Evangeline Schepper, Jodi Lis, Michael Jay, Zarka Ali, Terence Ma, Bill Lynch, Randy Denney (NETC), Mei Mei, Stephen Johnson (NETC), Jim Goodell, Oliver Pincus, Samaa Haniya

Materials

[Project Charter/Mini-Workplan](#)

[Resource folder](#)

Agenda

1. Introductions
2. Conference Recap
3. Resource orientation for our shared Google Drive
4. Whiteboarding of necessary domains to include for Learning Engineering CCC. These will be aggregated and shared in a form to be disseminated to the ICICLE listserv.
5. Meeting cadence/subcommittee discussion for subdomain identification.
6. Other new business?

Notes from Discussion:

- Biggest take away: Developing criteria for standards/normalization of what a LE is/was/or should be for credentialing purposes

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- Should there be a definitive or narrow definition of what constitutes a LE credential
- Starting with what does everyone need to know?
- Because we are part of IEEE, we need to define how LE belongs as an Engineering profession?
- Michael: Avoid the deer in head lights by focusing on one problem or task.
- Jim: We could avoid the personal competency framework issues by developing a maturity model for LE in an organization.
- New members are looking for ways to bring in ideas of what others are doing and looking for ways to collaborate for common goals.
- EPA (Acronym of the day): Entrustable Professional Activity (combination of competency to execute an activity) Entrustable professional activities: a model for job activity competency framework with microcredentials
<https://www.emerald.com/insight/content/doi/10.1108/IJILT-05-2022-0108/full/html>
- IEEE 1484.20.3-2022 - IEEE Standard for Learning Technology--Data Model for Shareable Competency Definitions <https://standards.ieee.org/ieee/1484.20.3/10749/>
- IEEE 1484.20.2-2022 - IEEE Recommended Practice for Defining Competencies <https://standards.ieee.org/ieee/1484.20.2/10743/>
- [Jodi provided an overview of a recent framework that leveraged the above standards](#) ^
- Aggregate document for our domains:
<https://docs.google.com/spreadsheets/d/1rRsoxqG7nszB1j5nvuS7ciggTO-K-cAzMY5dLgxY-DA/edit#gid=420166134>

ACTION ITEMS:

- Review and add suggested domain items to the Domain Brainstorming Spreadsheet:
<https://docs.google.com/spreadsheets/d/1rRsoxqG7nszB1j5nvuS7ciggTO-K-cAzMY5dLgxY-DA/edit#gid=420166134>

Please keep in mind that the domains should pertain exclusively to anyone who is functioning as a member of a team who is working on a learning engineering project.

CCC SIG Meeting 30 June 2023

Meeting link: <https://us02web.zoom.us/j/2895986276>

Attending: Scotty Craig, Anne Fensie, Zachary Zidek, , Zarka Ali, Mei Mei, Michael Jay, Jodi Lis, Evangeline Schepper, Avron Barr, Jim Goodell (late arrival)

Agenda:

1. "Project Charter" ([Generic sample](#))
 - a. What problem do we want to solve?
 - b. Who is the audience?
 - i. Employer - what skills are valuable to them? What is real world value? Disconnect with education and corporate. Competencies should be aligned.

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2. How? Use IEEE LTSC Defining Competency Standard and [ECAMPUSONTARIO OPEN COMPETENCY TOOLKIT](#) (Developed by a member of LTSC WG) as guides.

- a. Review Resources

- [Reviewing Domains](#) (selection from assorted documents such as:

Problems Solved with Learning Engineering	https://docs.google.com/document/d/1ezpepPPhKRe1mS49Kg-W-UTP41QbLt7HZkv98_kkXog/edit
Topics for an "Introduction to Learning Engineering"	https://docs.google.com/document/d/1d8vf-Zay3M-xDz8Y5XbMA7xtQqnGCwiWrNd5fkHm4JA/edit#heading=h.iw1ovzellhwp
What a Learning Engineer Needs to Know	https://docs.google.com/document/d/1gpv6kBYLHRVCE4sD44VgBIWLWQiGvJLm30S7zVZIlpk/edit
Boston College version of Learning Engineer Competencies_2018	https://docs.google.com/document/d/1orZ4glbB8b4Y5o0CVsW9mVxqc9-IFi6HGFVBkqUMXmE/edit?usp=drive_link
Data Science Tasks for Learning Engineers	https://docs.google.com/document/d/1nFLMpwd3krC8roIEvAvVmxMupVJwoaAkKyr8YgK0LE/edit
CCC SIG Resources	https://docs.google.com/spreadsheets/d/1vhQPX8XLBneaGZX0I9q9goaVzPzf-IDs86daW4KzuWk/edit#gid=880419774
Matching LE Scenarios to Definition and Competency Categories	https://docs.google.com/document/d/1IIUT-OILhRZoz58_VXAecqUJL57m0Z8IWERLleONalo/edit

- Roles and Jobs

https://docs.google.com/spreadsheets/d/1if8W5U7Gn_RiFz6LlrdBJYMdUiGgUG_7zyGtFAWjlfY/edit#gid=1629548688

3. Conference

- a. For Project Workbook, add what roles/competencies/skills are required in each of the sessions?

Notes from discussion:

- Learning Engineers have to understand instrumentation, data analysis, data management in the context of online learning experience design. May make more progress if we framed it in terms of LE projects vs LE profession and LE process.
 - What roles/skills/competencies are needed in projects?
 - Develop case studies/use cases to look at skills/competencies
 - At conference, review case studies presented there and what skills/roles were used? Gather info about skills/competencies/roles during the conference.
- What are basic competencies/skills that need to know? What is the foundation of a learning engineer, of a person who is on a learning team? What is the higher order of learning?
- Vision is not to build a whole new framework. Use existing frameworks If competency framework exists, will use that. Example Project Management, use PMI's.
- DOD is the ideal that we want to get to. They define at high level cognitive and other levels for competencies as well as tasks defined at a granular level.

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- Webinar June 29th with Ben and Jim Goodell.
- Matchmaker - conceptual match. Demo?
- Groups - Can we use their tools? What can we learn from them?
 - Credential Engine
 - Ed Design Lab - task analysis
 - O*NET
 - 1EdTech Case Network
 - Skills Engine
 - Open Skills Network
 - Skills Lab
- Align competencies taught in education context with jobs
 - Map skills and tasks
 - Competency frameworks can help with job descriptions and assist companies with skills that LE has
- Future vision - issue microcredentials based on courses that ICICLE could offer on specific competencies/skills
- Have small working groups to develop competencies. Have listening sessions to review and give feedback on draft set of competencies

Next Steps:

- Projects/Problems: Review the Projects/Problems that LE's solve and prioritize key problems that LE solve.
- Roles: We have O*NET list of tasks from the roles in the LE Flower. Validate them.
- Identify Domains/Subdomains:
- Identify Leads for Domains and develop small groups to develop foundational competencies for Domains.

References:

Learning Engineering Resources:

<https://docs.google.com/spreadsheets/d/1BHG2XJ13v74htuQRKBgGNVjJnynz1-sIDPGgwmjf2RU/edit#gid=1331798190>

Competency Domains

<https://docs.google.com/spreadsheets/d/1rRxsogG7nszB1j5nvuS7ciggTO-K-cAzMY5dLqxY-DA/edit#gid=420166134>

CCC SIG Meeting 26 May 2023

Meeting link: <https://us02web.zoom.us/j/2895986276>

Attending: Jodi Lis, Evangeline Schepper, Avron Barr, Terence Ma, Zachary Zidek, Scotty Craig, Oliver Pincus, Siyuan Li, Zarka Ali,

Agenda:

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1. Review of our competency framework goals
2. Potential for a “Meta-framework” that refer to existing frameworks for the different domains
3. We may need to highlight specific core competencies for learning engineering as an individual so that we can train learning engineers. Working in a team is core competency.



4. We'll need a way to connect the sessions from conference with the learning engineering framework

The goals for 2023 include:

1. Identifying the high level tasks associated with the other roles on the learning engineering team just like we did for the data science role/domain. (Mostly tasks/definitions from O*Net)
2. Seeking grant funding to hire experts in task analysis to do deeper level of analysis at a more granular level

References:

[Graduate and Recent Graduate Survey](#)

[Conference Organization Example with Technical Groups](#)

[Global Competencies and Outcomes Framework for Universal Health Coverage](#)

[Examples of Competency Framework](#)

CCC SIG Meeting 28 April 2023

Meeting link: <https://us02web.zoom.us/j/2895986276>

IEEE ICICLE CCC SIG Meeting Running Agenda and Notes 2022-2023

Attending: Evangeline Schepper, Jodi Lis, Zachary Zidek, Samaa Haniya, Zarka Ali, Scotty Craig

Agenda

1. Define what goal of a competency framework
 - a. Assess: what information do we already have? Find the gaps
2. ICICLE conference Submission
3. Date/time to meet? Tools, Design, and Corporate SIGs also meet last week of the month
4. Seek funding to assist development of a framework (this will always be an item. One day we'll have something to share)

References

<https://www.linkedin.com/groups/12188841/>

<https://sagroups.ieee.org/icicle/icicle-2023-conference-call-for-proposals/>

<https://sfia-online.org/en>

<https://credentialengine.org/>

<https://ecfexplorer.itprofessionalism.org/>

https://docs.google.com/spreadsheets/d/1if8W5U7Gn_RiFz6LlrdBJYmUiGgUG_7zyGtFAWjlfY/edit?pli=1#gid=1629548688

<https://docs.google.com/document/d/1nFLMpwrD3krC8roIEvAvVmxMupVJwoaAkKyr8YgK0LE/edit>

CCC SIG Meeting 31 March 2023

Meeting link: <https://us02web.zoom.us/j/2895986276>

[Overview](#)

Attending:

Tracy Arner, Jodi Lis, Oliver Pincus, Olorunfemi Omotayo, Jim Goodell, Michael Jay, Scotty Craig, Evangelin Schepper

Agenda

Welcome back to CCC SIG

1. Define what goal of a competency framework (how granular do we want to go)?

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- a. Different lens
 - i. Introducing LE at early age, how to introduce into digestible chunks to prepare people at university. How to prepare K-12 teachers
 1. Level of granularity to help a teacher introduce concepts early
 2. Competencies: rethinking k-12 education which means rethinking teacher preparation
 3. Example: Define the problem - what data/information do you need?
 4. Mindset shift: team for teaching and learning
 - ii. ASU LE Certificate
 1. Need O-NET to justify certificate. What occupations can be
 - b. What are the core competencies to work in LE area? What do they need to know about that area? What core things that everyone needs to know?
2. What is scope? What can do in short-term/long-term?
 - a. Team sport with multiple implementation
 - i. Shared language/vocabulary - to make you ready to be on the team
 - ii. Mechanisms to be on the team
 3. Ideas for funding/research
 - a. Who can fund this work? ASU and ICICLE work together to get funding to do task analysis?
 - b. Indeed / Linked-in: Get 5 years of data on LE-related fields and do NLP to identify core areas. Is this possible to get?
 4. How often do we want to meet and when?/Logistics - Last Friday of month, 3 pm ET

Action Items:

1. Draft ICICLE Conference proposal
2. Start to develop short and long term goals
3. Review O*NET and OPM information [here](#) to draft ideas for tasks/jobs and put in separate document

References:

[5 Models for Data-Driven Learning by Kristin Torrence](#)
[What is O*NET?](#)

Our previous work [folder](#):

- [Data Science Tasks for Learning Engineers](#) (doc)
- [Learning Engineering Categories By Flower with O*NET Tasks](#) (sheet)
- [Learning Engineering Job/Roles and Tasks from OPM](#) (sheet)

CCC SIG Meeting 9 December 2022

Meeting link: <https://ieeesa.webex.com/meet/jgoodell>

Listserv: ICICLE-CCC@LISTSERV.IEEE.ORG

Listserv management: <https://listserv.ieee.org/cgi-bin/wa?SUBED1=ICICLE-CCC>

Or to subscribe email to ListServ@ieee.org, with the following text in the body of the message*:
subscribe ICICLE-CCC YourFirstName YourLastName

Attending:

Updates:

- Michael - status of Learning Agency funding conversation
- CCC SIG listserv will be the way we communicate (see details above)

Next Steps Discussion

Action Items:

- Volunteer to merge any [You Cubed](#) & [DSPA](#) uncovered tasks into [Data Science Tasks for Learning Engineers](#) ?
- Volunteers to start a doc for other branches using [OPM](#) and [O*NET Tasks](#)?
- [] Look into standards for multi-disciplinary teams (BD)

References:

- You Cubed (Stanford project for K12 data literacy standards):
<https://www.youcubed.org/resource/data-literacy/>
- Data Science Process Alliance: <https://www.datascience-pm.com/>

Our previous work [folder](#):

- [Data Science Tasks for Learning Engineers](#) (doc)
- [Learning Engineering Categories By Flower with O*NET Tasks](#) (sheet)
- [Learning Engineering Job/Roles and Tasks from OPM](#) (sheet)

[] Jim will send 2/10 invite recurring

LE Flower



CC-BY Jim Goodell

CCC SIG Meeting 11 November 2022

<https://ieeesa.webex.com/meet/jgoodell>

Attending: Jim Goodell, Jodi Lis, Evangeline Schepper, Michael Jay, Oliver Pincus, Brandt Dargue

Action Items:

- Michael - will reach out to Learning Agency about possibility funding to do this
- ICICLE Leadership will look into establishing a CCC SIG listserv
- Jodi - will send article on data science for educators 👍
- Jim - Send next meeting invite

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References:

- You Cubed (Stanford project for K12 data literacy standards): <https://www.youcubed.org/resource/data-literacy/>
- Data Science Process Alliance: <https://www.datascience-pm.com/>