

## Makerspace 101 College Class for Honors Students

60 words:

A Makerspace 101 College Class has been developed and differentiated for honors students in the authors' university. One technology industry expert and one researcher will go over a literature review of makerspaces in the college setting, as well as give tips and tricks from their own lived experiences with college-level makerspaces.

250 words:

Makerspaces are great venues for Honors program professors to differentiate Science, Technology, Engineering, and Mathematics (STEM) content. Makerspaces have been found to influence some college students' future identities as scientists and can influence their sense of belongingness (Andrews et al., 2021; Nadelson et al., 2019). Some professors can teach honors-level college classes, such as Makerspace 101, that serve as an introductory, overall STEM class for possible future STEM majors. These students who are interested in STEM majors can explore their passion and talent in STEM content before committing to any particular STEM major. This opportunity for honors students to demonstrate their curiosity and creativity can lead to a higher level of engagement with STEM content. One of the authors has taught a Makerspace 101 class for college-level freshmen and sophomores for a few years, as well as has received a grant to start their own makerspace. They have developed their own sustainable makerspace. The college-level class has also been differentiated as an Honors class for their university. The other author has worked in a professional high-level technology company and will be able to provide tips and tricks from the industry to professors looking to differentiate their content for their Honors students.

## Sustainable Makerspaces for Gifted Students in Rural Areas

60 words:

Makerspaces are beneficial to gifted students when gifted professionals are trained to differentiate the technology content to their unique needs. This session's presenters have worked in makerspaces in high-level technology companies and have also conducted a literature review on the topic. Audience members will gain insight into how professional makerspaces and researchers select sustainability practices for their businesses.

250 words:

Makerspaces are great ways to engage gifted students in Science, Technology, Engineering, and Mathematics (STEM) subjects (Martinez & Stager, 2013).

Makerspaces are beneficial to gifted students with the easily differentiated 21st-century skills content (P21, 2001). Rural school teachers have unique technology needs with a focus on self-sustainability for their makerspaces (Chen & Cao, 2022). This session will go over a literature review conducted by the authors for tips and tricks for rural school gifted teachers, administrators, and coordinators to increase the sustainability of your technology resources, especially in the makerspace setting. Some tips include connecting authentic experts in the STEM field who are willing to share their resources and time to rural school gifted teachers. This presentation examines how to best network and utilize various platforms with those authentic experts to leverage additional resources for the rural school classroom. Once the STEM experts have trained local rural school professionals on various technologies, the presenters will go over tips for internal professional development that can be conducted among rural school professionals. Gifted teachers can also be guided to use specific recyclable and

reusable materials for different technology areas, which can be helpful for their makerspace's self-sustainability practices. In addition to the literature review, the presenters have worked in professional makerspace settings for high-level technology companies and can relate their unique tips and tricks to gifted professionals.