



Photo Credit: Brano Slovensko

CSP Three-Credit Standard for Gen-Eds

BY DAVINA BELLINGER

NEXT YEAR, CONCORDIA ST. PAUL new will be making general education requirements three credits instead of four depending on the student's major. The Minnesota Office of Higher Education's (MOHE) requirements are for the following: three credits in communications, three credits in natural science/mathematics, three credits in social sciences, and three credits in humanities/arts. This list is for the general requirements for higher education institutions. Each college will take different approaches with how they want to lay these new three credit standards for general education. These number of credits add up to thirty in total general education credits in order for the student to graduate.

According to the MOHE: "A bachelor degree must include both introductory and advanced coursework. Introductory coursework must provide a broad exposure to the concepts, principles, and substance of individual disciplines. The minimum number required for advanced-level credits, including courses from a major program of study, must include a minimum 54 quarter or 36 semester credits required to complete a bachelor degree program."

Concordia will ideally keep to this list for general education requirements: six credits in communications, seven credits in natural sciences/mathematics, six credits in social sciences, six credits in humanities/arts, and six credits in theology. These credits add up to thirty-seven credits in order for students to graduate at CSP.

Some of the different areas in general education that will be part of these new requirements are the following: psychology, sociology, history, political science, and micro-economics, located in the 6 credit social science category. Social science, humanities/arts, and elective courses will be different based on students' prefixes in order to meet the requirements in each area based on major requirements as well.

According to the MOHE: "The minimum number of credits required within a major program of study must be forty-five quarter or thirty semester credits. Study within a major program must form a coherent pattern in which introductory work in the major field provides foundation for advanced work."

Concordia fulfills this requirement for the higher education of the state of Minnesota because they will have students complete the general education requirements of thirty-seven plus the courses required for their majors in order to receive their degree of choice. Whether they decide to keep this new requirement or not is completely up to the state education board.

Scientists Regrow a Frog's Lost Leg: What Does This Mean For Humans?

BY JAID PERRY

DUE TO MANY DIFFERENT circumstances, including diabetes, military combat, trauma, and more, there are millions of people in the United States alone that will lose one or more limbs in the next year. For most people, prosthetic limbs are the best option, but now, after successful frog limb regrowth, human limb regrowth may be next on the docket.

During this ongoing experiment, frogs encountered a double-leg amputation, and after the surgery, a team of scientists placed a combination of five drugs into a wearable dome that fits over the amputation location. Each of the drugs served a different purpose. The cocktail of drugs helped to keep inflammation down, limit the production of collagen, which is what leads to scarring, and aid in the growth of nerve fibers, blood vessels, and muscles. Instead of encouraging the stump to heal, scientists tried to influence the stump towards regenerating.

After 18 months, the back legs of the frog had completely regenerated. The limbs not only grew past the "spike" phase, but they grew with strong bones in the legs, healthy neurons, and even toes at the end of the limb. The complete regrowth leads scientists to believe that frogs, as well as other animals/humans, have regenerative abilities that are dormant. Those abilities need to be triggered in order to regrow lost limbs to be like other animals (ie. starfish) that can naturally regrow limbs without the aid of drugs.

This process was applied to a multitude of frogs, and it continued to be a success. The frogs, after several months, could use their new legs for swimming, moving around, and anything else, just as a natural frog leg. Keeping the biodome on the frog legs for the first 24 hours created an amniotic environment, similar to the environment that an embryo grows in. Knowing that the amniotic environment was the key to limiting scar tissue, and eventually the key to overall success, scientists will start there in moving the process to other mammals and hopefully humans.

Adult animals still have all the genetic information that they need in order to make their body structure, even long after the growing process has stopped. Triggering dormant anatomical patterning programs, even in humans, can kickstart a regeneration phase. While completely growing a new limb can be a concept for humans that seems out of reach, the opportunity is likely to happen in this lifetime. Scientists are very hopeful, stating that the potential is tremendous, that this regenerative process can be applied to humans. Up next, extensive testing will be done on mice, and eventually, the goal is to have the process perfected so humans can, one day, regrow their own lost limbs.