On Friday, May 4, the Energy Systems program celebrated the graduation of 25 students. The semi-formal reception was held in Egan Research Center prior to the official commencement ceremony at Matthews Arena and was attended by students, faculty members, industry representatives, alumni, and families.

Program Director Gregory Kowalski proudly announced that 16 of the 25 graduating students have full-time jobs, thanks primarily to a strong network of industry contacts and the co-op connections established through the University. Graduates have found jobs as process engineers, energy efficiency engineers, and test engineers, among other professions. Other graduating students have been working as interns while one will be pursuing his PhD degree in Mechanical Engineering. According to Pitts, the energy sector is incredibly dynamic field to enter, where technology is a large driver and opportunities are huge because the system is so fragile.

The program concluded with remarks from Kevin Johnson of the 2012 graduating class (see article). He emphasized that it is the diversity of the students in the program who “bring it all together.” “I believe the most important thing the students in this program have is one another. It’s our voice and our success in the workplace that will help us all to succeed in the business world,” said Kevin. Following his speech, Kevin Johnson was awarded the “MSES Initiative Service Award” by his fellow students for his outstanding contributions, service and leadership in the Energy Systems program.

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INDUSTRY PORTRAIT — JOB PROSPECTS CONTINUE TO BE EXCELLENT

The energy industry incorporates a broad range of sectors, including petroleum and natural gas, electric and nuclear, power, refining and coal mining, and clean energy systems. There are many well-paying career opportunities abound, and job prospects continue to be excellent. According to the US Department of Labor, more than 500,000 employees - up to half of the energy industry’s current workforce - will retire within five to 10 years. Due to the adoption of new technologies, sustainable processes, renewable energy practices, and the construction of new plants, there is an urgent need for highly skilled and trained industry professionals. For professional-level engineering jobs, many companies are seeking candidates with a master’s degree. Job titles for Energy Systems graduates include energy engineer, energy efficiency engineer, energy building efficiency engineer, and energy analyst. Other positions for Energy Systems graduates include test engineer or process engineer with a specialized focus on emissions, solar, or wind power. Through the program’s business courses, students gain knowledge applicable for executive positions in the energy industry in project management, account management, advising, auditing, and sales. Smaller companies in the field of clean energy, especially, are in need of a skilled workforce for a variety of responsibilities.

There is significant job growth in the clean energy sector, comprised of renewable energy, energy efficiency, alternative transportation, and carbon management. As stated in the Massachusetts Clean Energy Industry Report 2011, employment in clean energy rose by 6.7 percent last year alone in Massachusetts, in comparison to an average of 1 percent growth among all other industries in the state. This fact illustrates the demand for clean energy engineers even during a time of economic recovery. Due to the need to change and adapt to green energy, the primary focus of job profiles in the clean energy sector is to develop and research renewable energy practices, analyze energy efficient ways to operate plants and machinery, and energy efficient building materials. Other foci are in alternative transportation and carbon management, including the reduction of emissions.

According to the Massachusetts Clean Energy Center (MassCEC), Massachusetts is a front-runner in the development of renewable energy, in part due to significant offshore wind energy potential estimated at greater than 6,000 MW. With over 4,909 clean energy firms, as identified by the MassCEC, there are tremendous opportunities for co-op and post-graduation placement in this state.


COOPERATIVE EDUCATION IN ENERGY SYSTEMS — KEVIN JOHNSON ’12

New graduate Kevin Johnson is currently employed as an energy insight analyst intern at EnerNOC’s corporate headquarters in Boston, Mass. As an intern for EnerNOC, a leading provider of demand response and energy efficiency solutions, Kevin is responsible for conducting analysis related to the delivery of EnerNOC’s EfficiencySMART Insight service, providing insight into energy usage for EnerNOC’s industrial, municipal, commercial, and institutional customers. Developing tools to analyze energy usage (including electricity, steam, and gas), manually sorting through energy curves looking for energy savings potential, and interacting with customers in delivering the results of his analyses comprise his responsibilities as energy insight analyst intern.

Kevin emphasizes the importance of a co-op job in the energy industry to gain the ability to apply theoretical knowledge acquired from his studies into the real world. All courses in the program contributed to Kevin’s understanding of the costs of energy in terms of carbon output and dollars, how buildings operate, and how they can be made more efficient. One course in particular, “Cities, Sustainability and Climate Change,” provided Kevin with fundamental knowledge for his work at EnerNOC. The course approaches many problems with energy efficiency from a policy perspective. “Reducing the energy usage of buildings can have huge impacts on the economics and sustainability of cities. Some buildings have tens of thousands of dollars in possible savings,” says Kevin. Kevin’s goal is to work in a strategic position, where he will be responsible for project development in the public and private sector. “The Energy Systems program has positioned me at the intersection of energy engineering, business, and policy. I believe all three of those are critical for the successful deployment of energy solutions. Top-notch technology and engineering is only viable within a solid business plan supported by favorable governmental policy. The three aspects must coalesce for a project to be successful, and I plan on being successful.”

WE WANT TO HEAR FROM YOU!
Please share your thoughts about this newsletter at energy@coe.neu.edu.