

Annual
CO-OP Report

Science, Mathematics and
Engineering Division

2010

Cooperative Education Leadership

The 2010 edition of the Annual Co-op Report summarizes the accomplishments of cooperative education in the SME division at Sinclair Community College. Professor W. Terry Maiwurm initiated, leads and has long been an advocate of the co-op philosophy at Sinclair. Professor Maiwurm has served the college for 29 years and continues to be a member of the SME division Leadership Team.

As a longstanding member of the Ohio Cooperative Education Association (OCEA), Maiwurm helped to plan and then attended the annual OCEA conference which was held on the Ohio State University campus this past year. The conference brings together educators and employers throughout the state of Ohio with the intention of building partnerships among them and Ohio college students. Presently, Maiwurm serves on the OCEA Executive Board as marketing chairperson and is responsible for bringing recognition to the co-op program by supporting "Ohio's Coolest Co-op" through an on-line co-op promotion. Next year, 2011, marks the 40th anniversary of the Ohio Cooperative Education Association, which was chartered on May 3, 1971.

This past year, Maiwurm was an active participant at the annual American Society for Engineering Education (ASEE) conference which was held in Louisville, KY. The ASEE is made up of industry and education leaders from throughout the US. In 2011, Maiwurm will be a workshop leader at The Conference for Industry and Education held in San Antonio, TX. The theme of the conference is "Transforming the Education of Future Generations in Engineering."



Annual Co-op Report

Welcome to Cooperative Education in the Science, Mathematics and Engineering division at Sinclair Community College. The goal of the SME co-op program is to provide SME students with valuable career related work experience as part of their overall college learning plan. Through the formal co-op format, a student may integrate academic study with hands-on job experience. Thus a student gains knowledge both from the classroom and from work experience. At Sinclair, most SME co-op students attend classes and work simultaneously on a daily schedule. However, there is a growing interest from employers to offer full-time co-op work opportunities that alternate with full-time academic schedules. Many SME degree programs require a co-op (270) experience. On the other hand, an SME student may choose to earn elective credit towards graduation for a career related co-op (270) experience.

Vision

Through its co-op program, the Science, Mathematics and Engineering division is reaffirming the vision of Sinclair Community College by providing a bridge to the future for SME students. By participating in co-op work experiences, students are given open access toward full time job opportunities. Relating classroom learning to hands-on experience provides intellectual challenge and self-discovery. Co-op experiences adhere to David A. Sinclair's vision, "Find the need and endeavor to meet it," by instilling confidence, courage, and determination in Sinclair students. Co-op experiences empower students with knowledge and skills for the journey into tomorrow's work world.



Mission

The Science, Mathematics and Engineering co-op program will maintain its mission by providing accessible, high quality work experiences for all SME students by its commitment to:

- Prepare today's workforce to meet the needs of a rapidly changing and technologically advancing economy.
- Emphasize the importance of science, technology, engineering and mathematics (STEM) in today's economic environment.
- Empower individuals by providing them with a strategy for life-long career success.
- Welcome opportunities to establish strong community partnerships between Sinclair Community College and local business and industry.
- Continue to promote a career related co-op experience as a required component in all SME division associate degree programs.

Cooperative Education in the Division

In 1906, Herman Schneider, the founding father of co-op said, "Students who best grasped the subject matter of an engineering course also had practical engineering experience." Sinclair Community College is an active supporter of this philosophy that fundamental theories would have more meaning if students could apply the theories learned in a classroom to an actual work setting. Exposure results in perspective. The more you are able to see and experience in life, the more you are able to appreciate in life.

Cooperative Education had its beginning at Sinclair Community College in 1954 when General Motors teamed up with Sinclair to create a co-op partnership in Dayton, OH. As Dayton's largest employer at the time, GM provided Sinclair students with valuable work experience while they studied engineering technology. General Motors and Delphi have had a profound affect in developing and supporting Sinclair co-op students over the past 56 years. But as doors have closed at GM and Delphi, Sinclair has been fortunate to find that other doors have opened to the SME co-op philosophy.

Over the years, hundreds of Dayton's companies have stepped up to become Sinclair co-op partners by providing our students with the opportunity for practical on-the-job training. Students expand their learning from the classroom to the work place while pursuing an associate degree in science, mathematics or engineering. SME co-op will be facing many challenges in the coming year as we seek to assist our students obtain jobs and career success. During tough economic times the number one co-op priority will be to increase and build stronger partnerships with new and expanding business and industry. This will be done in the Dayton area as well as in other regions that Sinclair now serves, such as Preble and Warren counties.

Due to the economy, Sinclair students in Science, Mathematics and Engineering will show an increased interest toward exploring co-op opportunities in the coming year. Most engineering majors require co-op experience for graduation. More biology, chemistry, geology and mathematic students will also be encouraged to explore possibilities to use co-op (270) as an elective toward graduation.

Science, Mathematics and Engineering offers academic programs in the following areas:

Advanced Technical Intelligence (ATI)

Automotive Technology (AUT)

Aviation Technology (AVT)

Biology (BIO, BTN)

Chemistry (CHE, GLG)

Electronics & Robotics (EET, ACT)

Engineering Technology Design (CAT, ETD, HVA)

Engineering University Transfer (EUT)

Manufacturing & Operations Technology (CAM, OPT)

Mathematics (MAT)

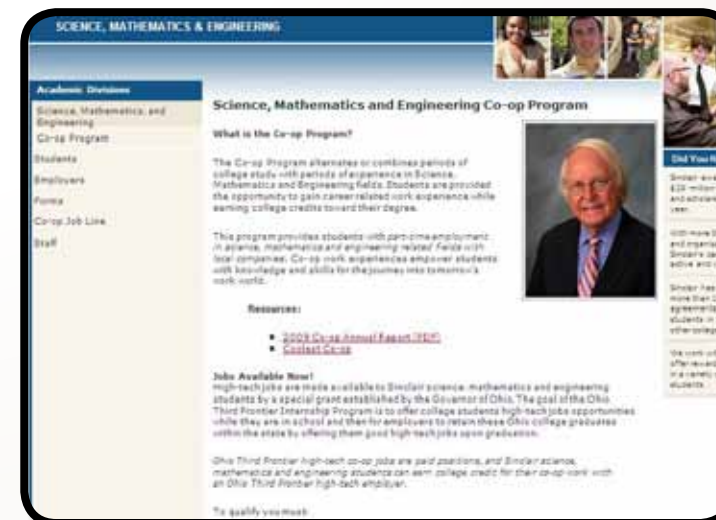
Physics (PHY, AST)

Annual Co-op Report

SME Co-op

- The (270) designation indicates a co-op work experience course found in many SME academic programs at Sinclair Community College.
- Chairpersons make the final decision as to whether or not a co-op (270) may be used as a technical elective.
- Three credit (270) designates academic credits earned per quarter for 20 hours per week of career related work experience.
- Six credit (270) designates academic credits earned per quarter for 40 hours per week of career related work experience.

Visit Co-op on the Web!



The Science, Mathematics and Engineering division co-op website may be accessed by visiting:
<http://www.sinclair.edu/academics/sme/coop/>

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Cooperative Education and Students

In today's job market it is a proven fact that students who graduate with co-op experience will earn more and find a career related job more quickly than a student who graduates without co-op experience. As our economy and workplace continue to change, co-op experience will be even more important to Sinclair SME students as they seek career success.

Knowing these facts has inspired Sinclair co-op students to prove themselves to be valuable employees to Dayton area business and industry, both before and after graduation. Sinclair has earned a strong reputation in the region for providing knowledgeable, hard working employees to local companies.

More so today than ever before, Sinclair students continue to indicate that their primary reason for attending college is "to get a better job." If students are to reach their goals, they must approach their college experience from a different perspective than tradition dictates, and choose to become actively involved in the co-op program. Proof that co-op works was realized this past year as 50% of our Sinclair co-op graduates were able to convert their co-op jobs to full-time employment with their co-op employers.

Students who are placed on a co-op job are required to meet with and obtain an approval signature in the SME co-op office prior to the beginning of each quarter. At this meeting, a co-op packet is provided, all assignments are reviewed, and a faculty mentor is assigned. In most cases the co-op/270 experience counts toward earning a SME degree.



"As a maintenance technician at Honda of America I must always be prepared to receive calls about equipment break downs. Responding quickly to determine the problem and then solving the problem is my responsibility. I must be prepared to think on my feet so that down time is at a minimum and the line is kept running"

Chris Maez
Engineering Technology
Design/Mechanical



Cooperative Education and the Faculty Mentor

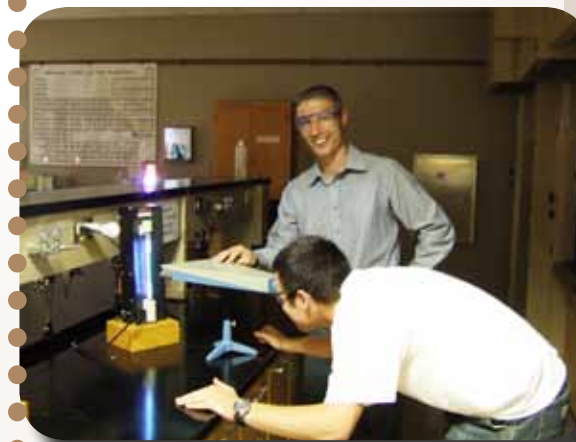
The faculty mentor provides a vital role in maintaining academic credibility in Sinclair's SME co-op program. By mentoring SME co-op students, faculty members observe first hand how students' newly acquired classroom theory is applied in a real world working environment.

The primary responsibilities of the faculty mentor are to monitor, guide, and evaluate the academic learning progress that takes place when co-op students apply classroom knowledge in the workplace. The faculty mentor evaluates learning achieved on the co-op job, issues college credit and provides the student grade. The faculty mentor is the vital link between the student and the employer. A co-op student's progress is aided by the faculty mentor who helps establish and attain educational goals. On the other hand, employer feedback about the student's work performance is gathered by the faculty mentor. Co-op not only proves to be a rewarding experience for the student, but the faculty mentor is also able to see first hand new technologies being used in today's world of work and can carry those ideas back to the classroom to share with other students.

At Sinclair we have a dedicated core of professors who have expertise in their field and are willing to serve as faculty mentors. The SME co-op students share how their co-op experience relates to their classroom learning through a reflection paper evaluated by the faculty mentor. An assessment of each co-op student by the co-op employer also provides valuable input for the faculty mentor in the evaluation of student performance. By working closely with and encouraging the co-op student, the role of faculty mentor serves as the key component as they work closely with and encourage the co-op student toward success.

"Sinclair is about hands-on education. I was a co-op student in industry throughout my undergraduate college career. This experience taught me that there is no substitute for hands-on learning in the workplace."

Professor Mike Canestaro
Sinclair Faculty Mentor



Cooperative Education and Employers

The U.S. Army Corps of Engineers, housed at Wright Patterson Air Force Base in Dayton, OH, has been recognized by the Ohio Cooperative Education Association as an Ohio Distinguished Employer. The Corps of Engineers has consistently hired Sinclair co-op students for the past 9 years. What makes the U.S. Army Corps of Engineers co-op program significant is the quality of the work assignments that are provided to each student. Students are assigned a work project which the student oversees until completion. Co-op's work alongside full-time employees and are always treated with respect, and of course are held to high expectations. The Corps takes education seriously and will only make a job offer to a student who has earned a degree. Seven former Sinclair co-op students now hold full-time jobs with the U.S. Army Corps of Engineers, which has proven to be a great Sinclair co-op partner.

Employers today recognize that the college graduate who applies for a position in their company, and has co-op experience, has a better understanding of what the job entails. In addition, they bring a proven work ethic to their job, which is a valuable trait compared to those graduates who have only studied about the career field.

It makes sense for Dayton area companies to participate in co-op partnerships with Sinclair because they are making a long term investment in the future growth and competitiveness of their organization. Hiring Science, Mathematics and Engineering co-op students increases the visibility of the companies on campus and promotes clearer ties with the educational community.

Co-op employers become partners with Sinclair and are asked to evaluate and give feedback on the performance of the co-op students. Employers have the opportunity to work with enthusiastic student employees who are eager to learn and apply newly developed skills in a real work setting. Employers realize a reduction in costs for recruitment and training when they establish a co-op partnership with Sinclair. In addition, the co-op work period allows time for the employer to evaluate the skills and potential of the co-op student for a full-time opening that may occur. Co-op becomes a win/win blueprint for the student, the college and the employer. To establish a co-op partnership contact:

Cooperative Education
Science, Mathematics and Engineering
(937) 512-2508
terry.maiwurm@sinclair.edu

See page 19 for Co-op Education Employer Guidelines

Marcy Szynski and Lori Amburgey, both Sinclair CAT graduates, are shown receiving the Ohio Distinguished Employer Award at the OCEA conference in Columbus, OH. Both Marcy and Lori were Sinclair co-op's at the Corps of Engineers and were then hired full-time.



Cooperative Education and Disney

"I am a Fairy Godmother in Training at the Bibbidi Bobbidi Boutique at Walt Disney World. I make magical moments each day by turning little girls into their favorite princess. After giving them a complete make-over and whirling them around in their chair they become so very happy. This is a very touching experience for me. Of course there are a few princesses that stick out in my mind but there is one princess I will never forget. While I was doing a make-over on the princess, her mother was explaining to me that daddy was fighting in a war and had been gone for a year. The princess's wish was to see him again. Well I finished my work and the princess clapped and cheered when she saw herself. When I turned her around there was her dad holding flowers for her. He tried to bow to his princess but no one could hold it in. We all cried. It was amazing."

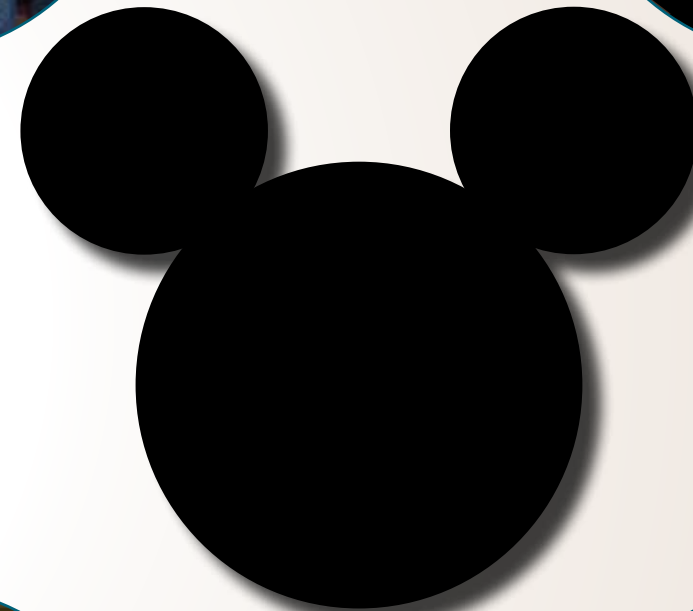
Samantha Harp
Sinclair Co-op
Walt Disney World Cast Member



Sinclair and Disney have been co-op partners for eighteen years. Sinclair Community College continues to rank in the top ten of all colleges in the United States for its support of the Disney Theme Parks and Resorts College Program. Being in Disney's top ten among the 350 colleges and universities that Disney recruiters visit twice a year is quite an accomplishment for Sinclair. The Disney College Program at Sinclair was initiated by Professor Maiwurm back in 1992. Thus, Sinclair's co-op program continues to play an important role with Disney. Four hundred and fifty Sinclair students have successfully completed the Disney College Program and earned their "mouse" ears. While most Sinclair students choose to spend their five month Disney experience in Florida, Sarah Lykins has chosen to spend her internship at Disneyland, CA for fall quarter 2010.

The Disney College Program is based upon three student experiences. The first is the "Learning Experience" that will prove that students can both laugh and learn as part of their time at Disney. Students may earn college credit by taking classes such as hospitality, communication, engineering, entertainment, and finance at Disney University. Courses are college level and accredited. Secondly, "The Earning Experience" will have students working in the Theme Parks and Resorts making Disney Guests' dreams come true. Students will work full-time and get paid for their efforts. The "Living Experience" is the third piece of the puzzle. Students will experience a diverse living experience by being housed in Disney sponsored apartments with 4,000 other college students from all over the world. While working at Disney, Sinclair students have the chance to enhance their resume, as well as the opportunity to network with Disney leaders.

Walt Disney World



Cooperative Education at the Courseview Campus

The Sinclair Courseview campus in Mason, OH has established quite a pattern of success in the three years it has been in operation. Growing an enrollment from 199 to 1,300 students is very commendable. As Courseview grows, so will SME co-op as we continue to expand outreach to business and industry in Warren County. We are confident that Warren County possesses the potential for strong economic growth which will provide an increased source of co-op opportunities for Sinclair students. Highlights of SME co-op activities in Warren County include:

- * Warren County companies who have hired Sinclair co-op students include Advics, Fecon, United Environmental, L-3 Cincinnati Electronics, Great Wolf Lodge, GE Aircraft Engines and the Ohio Department of Transportation (ODOT).
- * In April of 2010 Sinclair hosted Warren county companies at the Courseview Campus for lunch and a lively discussion of how SME co-op can be of benefit to Warren county companies. A presentation providing information about the Third Frontier program by the Ohio Department of Development proved beneficial to local companies.

As Warren County shows continuous growth, especially along the I-75 corridor, more and more companies will be pursued as new SME co-op partners. The future for co-op looks bright in Warren County at Sinclair's Courseview campus.



"L-3 Communications has always had strong support for co-op's in their organization. I have had the opportunity to work with co-op students from other colleges which also provides a chance to learn and grow. As an environmental engineering major at Sinclair my role at L-3 is to continually improve the quality management system within the company. It is important that we always live by OSHA standards within our facility. Checks and balances play a very important role in the L-3 philosophy and for me as a co-op."

Chelsea Tilton
Sinclair Co-op at L-3
Communications



SME Contract Program

Professor Terry Maiwurm, coordinator for the SME co-op program, initiated the contract program over 20 years ago with support from General Motors. Since its beginning, many other companies have joined the contract program as partners. By using the SME contract program, companies may hire co-op students who will work for that business, but their wages will be paid initially from the Sinclair Community College payroll. The company is billed monthly for actual student hours worked plus an administration fee. The company then writes a check to Sinclair Community College for all the co-op students in their employment. The contract program serves as an option, as typically companies pay wages to co-op students directly from their payroll. Losing GM and Delphi this past year brings new challenges for the contract program in 2011. Finding more contract program job sites with new companies will be a top priority. We will need to identify those companies that feel the contract program will work to their advantage. Though contract program annual billings have declined this past year, several new contract partner companies were added. Maiwurm's role will continue as he places students in contract jobs, oversees payroll documents, issues paychecks and sends monthly statements to participating contract companies.

See page 11 for SME Contract Program Guidelines

Cooperative Education Accomplishments 2010

Each year the Sinclair SME co-op office explores new ways for our students to experience success in their chosen career field. Striving for success often presents challenges, even with the present state of the economy, our co-op students are encouraged as they explore new ways to grow. Listed below are highlights of our SME co-op 2010 accomplishments.

- * Maintaining a strong presence in the community this past year, the SME co-op office:
 - 1) increased the number of students served from 826 to 902
 - 2) Increased the number of SME co-op partners from 117 to 135
 - 3) increased the credit hours generated by co-op class enrollments from 1605 to 1752

Accomplishments 2010 Continued

Cooperative Education Outlook for 2011

- * Again in 2010, Wright Patterson Air Force Base and the National Museum of the United States Air Force stepped up to provide co-op employment opportunities for SME students. Sinclair co-op students can be found in all areas of WPAFB which includes the National Museum of the USAF. Many co-op's who were employed during the summer of 2010 are continuing on in student programs in 2011 because of their strong work ethic. Brenda Myers, Human Resource Specialist for Student Programs at Wright Patterson AFB has been a strong advocate for Sinclair and our students.
- * With the growth of the Advanced Technical Intelligence (ATI) program at Sinclair, the college signed an agreement with Riverside Research Institute. The agreement calls for RRI to provide co-op/internship opportunities for Sinclair ATI students. The program began in spring quarter of 2010 and two graduates of the ATI program have been hired in permanent positions at Riverside Research Institute.



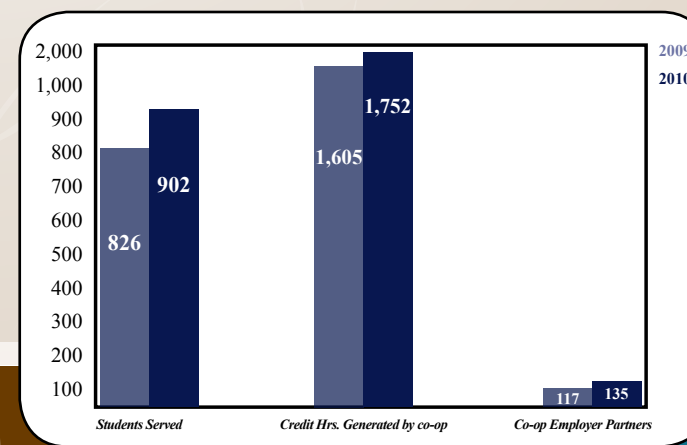
- * This past spring, the SME co-op office gave support and leadership to the 2010 Career Exploration Fair which was held in the Great Hall of the Ponitz Conference Center. Over 50 employers were on campus to interact with the 400 Sinclair students in attendance.
- * The Ohio Contractors Association (OCA) held a "Constructor for a Day" workshop at the Embassy Suites Hotel in Cincinnati. Sinclair civil construction students were invited to attend and participate in workshops, job networking as well as visiting local construction sites. Twelve CAT students, accompanied by Professor Maiwurm, attended the program. Luke Kremer, one of those in attendance, was awarded a \$1,000 scholarship to help him complete his Associate Degree at Sinclair. Luke used the money to graduate in June of 2010.



Dean Dr. Roger Abernathy signing contract with RRI President Richard Annas.

Accomplishments 2010 continued

- * Honda of America has been building automobiles in Ohio for over 25 years. During that period of time Honda has never had a lay-off of employees. One of Sinclair's co-op's who successfully completed two co-op terms at Honda and earned his AS degree in EET was hired on at Honda full-time. Another of our recent Honda co-op's arranged for and conducted a tour of the Honda automobile production plant for Professor Maiwurm. Plans are now in the works for a group of Sinclair engineering students to tour the Honda plant during the fall quarter of 2010.
- * Walt Disney Theme Parks and Resorts College recruiters held an informational meeting which was attended by Sinclair faculty and staff. The meeting gave Disney recruiters the opportunity to meet with the Sinclair individuals who encourage students to participate in the Disney College Program.
- * The STEP II co-op program was dormant in 2010. With the continued support of STEP II coordinator Daryl Curnutte and the Dayton Tooling & Manufacturing Association (DTMA) we once again began gearing up the STEP II co-op program for the coming year. New computer aided manufacturing jobs in the tool and die industry are being listed and several CAM students have already been placed in co-op jobs.



For the past two years, Montgomery County has experienced more job losses than any other Ohio county. In 2011, SME co-op will strive to live up to the tag line given to Sinclair Community College by The New York Times. Referring to Sinclair, The Times stated that, "On this campus the focus is jobs." The article went on to say that Sinclair is a community college model for retooling the US work force. Our region has received more than its share of economic bad news with companies downsizing, moving their headquarters and closing. Enrollments at Sinclair surged and new co-op partner organizations joined Sinclair to fill the void left by departing co-op companies. Challenges exist, but we look forward in a positive manner to the upcoming 2011 co-op academic year.

- * With a large number of our population out of work we will experience increases in Sinclair enrollments. This means that more students than ever will be relying on the SME co-op office to help them return to the ranks of the employed.
- * The SME co-op office will work closely with Sinclair's workforce development office and the displaced workers initiative in the coming year.
- * The State of Ohio took its Third Frontier program to the ballot box this past year and voters lent support to the program. The Third Frontier program encourages Ohio high school graduates to attend an Ohio college while offering incentives to Ohio companies who hire Ohio college students.
- * More Science, Mathematics and Engineering programs will continue to build a co-op work experience into their curriculums, which means more SME students will be looking for co-op opportunities.
- * Many new, but smaller employers have joined Sinclair as co-op partners this past year and have pledged to continue their support in the coming year.
- * SME co-op will make a stronger presence at all Sinclair Learning Centers including Englewood, Huber Heights, Preble County, as well as Courseview in Mason.

The great thing about Dayton is that local industry and business responded to the needs of Sinclair students and provided co-op employment opportunities during tough times this past year. Growth of co-op will not just be aimed at numbers alone. It has always been, and will continue to be, focused on building the co-op program on the credibility and accountability of the co-op experiences in which our SME students are placed. With the support of our co-op business partners and the continued strong work ethic of our co-op students, we look forward to a promising year for SME co-op in 2011.

Contract Program Guidelines



Sinclair Community College is responsible for:

- Screening qualified candidates for the job interview.
- Supervising evaluation of the student's co-op performance.
- Providing faculty consultation.
- Assuming the responsibility of issuing pay checks to the co-op student.
- Maintaining Workman's Compensation for co-op student employees.
- Providing an appropriate billing method for each contracted co-op student, including the submission of student time sheets that reflect actual hours worked.
- Issuing Sinclair Community College credit for work experience when applicable.

Employer is responsible for:

- Providing a complete job description, including a recommendation for the type of college major needed for the position.
- Interviewing and selecting the candidates for the job opening.
- Providing a written evaluation describing the co-op students' progress and what advances the student has made with regard to learning.
- Providing 20 hours of work experience per week, over a 10-week period, at the employer's work site.
- Establishing an hourly wage at which the co-op student under a Contract Program will be paid. The hourly wage stipend for each student includes a carrying charge to be used by the college to help underwrite and administrate the Contract Program.
- Making monthly payments based on a contracted hourly rate. Sinclair issues contract billings on the last day of each month for student hours worked during that month.
-

Companies participating in the Contract Program will write a check made payable to Sinclair Community College and mail it to:

**Sinclair Community College
Attn: Bursar Office
444 West Third Street
Room 10-244
Dayton, Ohio 45402-1460**

Co-op Application



Please read and agree to follow these established guidelines that will allow Sinclair Community College to maintain the successful relationship that has been established with local employers.

As Sinclair co-op student, I _____ understand that:

- The primary goals of the co-op are to be educational. Training and experience that employers provide the co-op student is the most important factor in co-op placement.
- The Co-op Office recognizes that many students need a co-op pay check to help complete their college education. The Co-op Office will establish an hourly wage that is competitive, but the wage is determined by the co-op employer.
- Co-op students can earn co-op credit towards a Science, Mathematics and Engineering degree program for learning achieved on the co-op job.
- To earn college credit for the co-op experience the student must register for the proper co-op/270 course. A letter grade for the co-op/270 course is earned and will count toward the student GPA. Failure to register is considered to be grounds for dismissal from the co-op program.
- A current/updated resume must be submitted with this application.
- Co-op students must be currently registered and maintain a 2.0 or higher GPA.
- Each co-op student will continue to make progress toward successfully completing a Science, Mathematics and Engineering degree program.
- Co-op students, when placed, will complete the entire academic quarter.
- Sinclair co-ops are considered to be part-time employees, and usually do not receive benefits and are not eligible for unemployment benefits.
- Co-op placement is not guaranteed. Positions are secured on a competitive basis. Placement depends upon student qualifications, skills, interest, interviewing knowledge, as well as the number of jobs available in the career field. Sinclair will comply with all federal, state, and local laws regarding employment, and will provide equal opportunity for all students.

As a co-op you represent yourself as well as Sinclair Community College during your work experience. In doing so, you will abide by the Honor Code (enclosed), and will uphold the values of citizenship, social responsibility, personal accountability, and respect for self and others.

The Science, Mathematics and Engineering office is often contacted by employers and asked to release information relating to a student's educational progress. This student information may include GPA standing and possibly a transcript release. Releasing this information to prospective employers will be done in an attempt to secure Science, Mathematics and Engineering co-op employment opportunities.

Student Social Security # _____ Email _____

Student Signature _____ Date _____

Office Use Only: **Approved** **Not Approved**

Comments: _____

Co-op Credit Application



Many Science, Mathematics and Engineering degree programs now require a co-op credit (a Co-op/270) course before graduating. Typically you apply for co-op credit after being placed in a co-op job. Complete and return this Co-op Credit Application to Professor Terry Maiwurm, in Room 3-134, for his signature of approval. *In the case that you wish to use your current job as a co-op experience, you must discuss this job with your chairperson or counselor, who will determine whether or not your current job qualifies for co-op credit.*

While waiting for co-op approval you are encouraged to register for other classes because the Co-op/270 course can be added at a later date. Co-op registration coincides with Sinclair's quarterly registration period.

After you receive approval for co-op credit you will be given a Co-op Assignment packet. Forms included in the packet must be completed by the end of the academic quarter in which you are registered for co-op credit.

To insure proper co-op credit, return this form to Room 3 -134 before the beginning of the quarter.

Date _____ Co-op work quarter: Fall Winter Spring Summer Year _____

Co-op/270 course _____ 3 credit hours 6 credit hours

Student name _____ SSN/ID _____

Email _____ Phone (H) _____

Student address _____

City _____ State _____ Zip code _____

Major _____ GPA _____ Graduation date (estimated) _____

Company name _____ Department _____

Company address _____ City _____ State _____ Zip _____

Student position or title _____ Student work phone _____

Supervisor name _____ Supervisor title _____

Supervisor phone _____ Supervisor E-mail _____

Hours worked per week _____ Hourly rate/salary \$ _____

The following information is confidential and is not linked to individual students. The information you provide is useful for record keeping and tracking demographics in the co-op programs at Sinclair. Your reply is optional.

Sex	Race	Citizenship	Veteran
<input type="checkbox"/> Male	<input type="checkbox"/> Caucasian	<input type="checkbox"/> U.S.	<input type="checkbox"/> Yes
<input type="checkbox"/> Female	<input type="checkbox"/> African American	<input type="checkbox"/> Permanent Resident	<input type="checkbox"/> No
	<input type="checkbox"/> Asian	<input type="checkbox"/> Student Visa	Disability <input type="checkbox"/> Yes <input type="checkbox"/> No
	<input type="checkbox"/> Hispanic	<input type="checkbox"/> Other Visa	
	<input type="checkbox"/> Native American		

Date of birth _____

Office Use Only

<input type="checkbox"/> Part Time	<input type="checkbox"/> Intern	Major code _____
<input type="checkbox"/> Full time	<input type="checkbox"/> Contract student	Faculty mentor _____
	<input type="checkbox"/> Co-op	

Co-op Calendar



Sinclair Co-op students do not attend class, but learn in the workplace instead. **Students can earn academic credit for work-based experiences by documenting what is learned at the work-site, just as classroom learning must be documented through tests, quizzes, and papers to receive academic credit.** Assessment of work-based learning is done through a series of structured assignments evaluated by a faculty mentor from the student's academic discipline. All required meetings and assignments are made at the beginning of the quarter. Each meeting or assignment must be completed and signed off by the student, a faculty mentor, work-site supervisor, and the Co-op coordinator during the week indicated.

It is essential that this Co-op calendar, as well as all meetings and assignments, be completed and turned in when due. Not to do so will result in a lower grade on the Co-op work experience course.

Student Name _____ Faculty Mentor _____

Place of Employment _____ Worksite Supervisor _____

Prior to start of quarter

1. Receive Co-op approval and signature in Bldg 3-134
2. Complete work-site placement record in Bldg 3-134
3. Receive Co-op packet in Bldg 3-134
4. Receive faculty mentor assignment in Bldg 3-134

_____	_____
Co-op Coordinator	Date Completed

Week 1

1. Review all assignments in the Co-op packet carefully, including:
 - Co-op Work/Learning Contract.
 - the Co-op Student Reflection Paper.
 - the Employer Assessment of Co-op Student Performance, to be completed by the employer.

Student

Worksite Supervisor

Week 2

1. Attend the Co-op planning meeting with the Faculty Mentor to:
 - Establish Work/Learning Contract goals, objectives and activities.
 - Discuss the Co-op Student Reflection Paper.
 - Establish due date for all assignments to be turned in to the faculty mentor.
 - Make arrangements for the faculty mentor to make an on-site visit.

Faculty Mentor

Week 3-7

1. Optimize your learning experience by meeting the goals, objectives, and activities listed on your Work/Learning Contract to the best of your ability.
 - seek feed-back from your supervisor on your performances on a regular basis.
 - Apply classroom knowledge to work related duties.
 - Establish your professional network.
 - Develop excellent employment references.
 - Improve your work place competencies and skills.

Student

Week 8-10

1. Meet with the faculty mentor and worksite supervisor for the on-site visit.
2. Review the completed Employer Assessment of Co-op Student Performance with the faculty mentor and worksite supervisor.
3. Turn in all assignments to the faculty mentor.
 - signed Co-op Calendar
 - signed Co-op Work/Learning Contract
 - signed Co-op Student Reflection Paper
 - signed Employer Assessment of Co-op Student Performance

Faculty Mentor

Return this form to the faculty mentor.

Co-op Reflection Paper (page two)

INTERPERSONAL: my ability to communicate, to interact with others, and to be a contributing team member

4 3 2 1

Share an example _____

TECHNOLOGY: my ability to learn and utilize industry technology

4 3 2 1

Share an example _____

PROFESSIONAL ETHICS: my understanding and concern for the ethical standards toward the profession and my employers

4 3 2 1

Share an example _____

WORK ETHIC: the way I approach my job such as attitude, enthusiasm, consistency, reliability, time management, and dress

4 3 2 1

Share an example _____

SUPERVISION: my ability to respond to feedback from supervisors

4 3 2 1

Share an example _____

OVERALL JOB PERFORMANCE: the way I perform my co-op job responsibilities including quality and accuracy of work

Exceeded Standard	Met Standard	Improving	Did not meet standard
4	3	2	1

Share an example _____

How did your academic background contribute to your success in this position?

How might your co-op experience contribute to your future academic success?

Benefits to Employers



Employers who hire Sinclair Community College co-op students will experience these rewards:

- Co-ops are college-level students who show interest and possess an aptitude in a particular engineering field.
- Co-op students bring fresh perspectives, ideas, and knowledge to your work place.
- Co-ops can be hired at entry-level wages, and are usually not paid benefits or unemployment.
- Co-op opportunities influence students toward company loyalty.
- Co-ops roll up their sleeves and "hit the ground running".
- Co-op students are pre-screened, motivated students who have specific skills you can use.
- Co-ops help to reduce your training and recruitment costs.
- Co-op students perform routine functions allowing professional engineers more time to focus on higher level demands.
- Co-ops produce immediate and valuable results at a relatively low cost.
- Co-op encourages student/faculty consultation to solve a work place problem.
- Co-ops help to get work accomplished and make contributions to special projects.
- Co-op offers a connection for industry to provide input as to what educational programs the college should deliver.
- Co-ops serve as a great source for recruiting future hires.
- Co-op can open the door for companies who desire training opportunities for employees at the college.
- Co-ops from Sinclair represent local talent who want to work locally, and often times continue their education at a local 4-year college or university.
- Co-op partnerships allow companies to use Sinclair Engineering & Industrial Technologies laboratories.
- Co-op benefits employers by helping to create a profit center as opposed to a cost center in hiring.

Call Science, Mathematics and Engineering Co-op Office (937) 512-2508 and learn how your company can use Sinclair co-ops to fulfill your hiring needs.

Cooperative Education Employer Guidelines



The Science, Mathematics and Engineering Co-op program creates a partnership between employer, student, and Sinclair Community College. Employers are the key link that makes the program successful.

Employer responsibilities and expectations:

- To show a strong commitment to the cooperative education philosophy.
- To accept the principle that the work experience aspect is indeed an extension of learning.
- To train students in areas of competency essential to their success, as well as the future employment needs of the organization.
- To provide the Science, Mathematics and Engineering Co-op Office with a written job description which enables a good match between student and skills/requirements. (Job description should include hours, rate of pay, and a starting date.)
- To review all student resumes sent by the Science, Mathematics and Engineering Co-op Office for possible interview of candidates. Appointments to interview students may be set up with the student directly or employers may call the Science, Mathematics and Engineering Co-op Office for assistance.
- To inform the Science, Mathematics and Engineering Co-op Office when a student has accepted an offer, the student rate of pay, and the starting date.
- To support the college by checking if the student is registered to earn college credit for the Sinclair co-op experience.
- To assign a designated supervisor who understands and is supportive of the Science, Mathematics and Engineering co-op program.
- To treat the Sinclair co-op student you hire as your employee and under your supervision in the performance of their job responsibilities. To expect the student to meet your standards of quality, loyalty, confidentiality, and appearance.
- To expect the student to work as scheduled and to observe only company holidays, not those holidays observed by the college.
- To provide student employment for at least the minimum number of hours throughout the quarter.
- To evaluate the Sinclair co-op student on a quarterly basis using the form provided by the Science, Mathematics and Engineering Co-op Office.
- To allow an Science, Mathematics and Engineering Faculty/Mentor to make an on-site visit during the quarter to monitor the student's progress.
- To honor the employee agreement for a full quarter providing the Sinclair co-op student meets all job requirements.
- To inform the Science, Mathematics and Engineering Co-op Office quarterly if the student will be expected to return for another co-op term.
- To maintain the Sinclair co-op position in order that future Sinclair students will have an opportunity to work with your organization.

To establish a co-op program with a student already employed, please contact Sinclair's Science, Mathematics and Engineering Co-op Office at (937) 512-2508.

Employer Assessment (page one)



Overall Rating				
Consistently Exceeds	Meets Requirements	Fails to Meet Requirements	Not Applicable	
				Please complete this assessment of the student's co-op learning experience carefully and thoughtfully, but candidly, recalling instances typical of general performance and academic preparation. This evaluation tool provides valuable information to the student about his or her skills, competencies, strengths, and areas requiring improvement for future career success. It also provides important feedback to the college and academic department on its curriculum and course offerings.
				Career Related Skills and Competencies
				Has adequate career-related skills required for this job
				Effectively applies knowledge and skills on the job
				Seeks opportunity to learn new skills
				Produces quality work with minimal errors
				Produces quantity of work necessary under normal working conditions for this position
				Self Management Skills and Initiative
				Shows responsibility and reliability in completing work
				Takes initiative to complete work even if not told to do so
				Demonstrates ethical behavior, maturity, self-confidence
				Exhibits effective time management and organizational skills; meets deadlines
				Attendance and punctuality
				Problem Solving and Decision Making Skills
				Asks appropriate questions; offers creative solutions
				Exhibits flexible approach, adapts to change, completes work despite obstacles
				Exercises good judgment and takes appropriate action
				Communication Skills
				Demonstrates verbal communication skills necessary for the job
				Writes clearly and concisely
				Speaks up willingly, communicates information, and asks for clarification
				Listens for and applies feedback in order to improve
				Interpersonal and Teamwork Skills
				Makes a positive impact on work team and customers
				Pitches in to help co-workers without being asked
				Puts in extra time and effort to get job done; is willing to do less desirable tasks
				Overall job performance
				Shows evidence of potential for success in this career field

Employer Assessment (page two)

1. Given the right circumstances, would you hire this student as a permanent, full-time employee?
2. List strengths this student exhibited during this work experience.
3. List any weaknesses this student may have exhibited and offer any comments or suggestions on how he/she can improve in these areas.
4. What next steps would you recommend for this student following his/her co-op/internship? Please name two or three activities that you feel would contribute the most to this student's preparation for his/her chosen career field (coursework, work experiences, skill development, professional memberships, education, etc.)

Dates of Work Term: From _____ To _____ Date of Evaluation _____

Student Name _____

Student Job Title _____

Student Major _____

Student Signature _____ **Date** _____

Company _____ Department _____

Supervisor Name _____ Supervisor Title _____

Supervisor Signature _____ **Date** _____

Faculty Mentor Name _____

Faculty Mentor Signature _____ **Date** _____

Return this form to the faculty mentor.

Faculty Mentor Guidelines



The Sinclair co-op program is designed to provide Science, Mathematics and Engineering students the opportunity to earn college credit for learning achieved through a career related work experience. Faculty Mentors provide a vital role in maintaining academic credibility in Sinclair's Co-op Program. In addition, the **Faculty Mentor** becomes familiar with current workplace practices which are helpful in classroom discussions.

FACULTY MENTOR RESPONSIBILITIES:

- Make co-op coordinator Professor Terry Maiwurm and the Science, Mathematics and Engineering Co-op Office, in room 3-134, aware of your willingness to supervise co-op students on a quarterly basis.
- The primary responsibility of the **Faculty Mentor** is to monitor, guide and evaluate the academic learning process that takes place when students apply classroom knowledge in the workplace.
- The **Faculty Mentor** assignment is made prior to the beginning of each quarter when the student meets with and obtains an approval signature from the co-op office. At this meeting, a packet is provided, all assignments are reviewed and the **Faculty Mentor** assignment is made.
- The Faculty Mentor will meet with the Co-op student prior to the 3rd week of the quarter. **The Co-op student is responsible for initiating this meeting.**
- The **Faculty Mentor** will review and approve the student's rough draft of the Co-op Work/Learning Contract to maximize student learning during the quarter. It is the student's responsibility to develop a draft of the Co-op Work/Learning Contract and have it approved by the worksite supervisor.
- Student and **Faculty Mentor** discuss the Co-op Student Reflection Paper, and plan a final work project and set the date it will be due.
- Student and **Faculty Mentor** determine who will set up the on-site evaluation session.
- The **Faculty Mentor** will notify the Co-op Office if the assigned student has not made contact by the end of the 4th week of the quarter.
- **Faculty Mentors** will make a worksite visit during the quarter to meet with the student's supervisor in order to review progress, and evaluate the learning experience as well as competencies and skills needed for success in the workplace. **Faculty Mentors** may be asked to provide the employer with information about the student's program of study and academic progress.
- Internships are graded (A-F). **Faculty Mentors** are responsible for evaluating all assignments fairly and completely, assigning the grade, and forwarding it to the Co-op Office before grades are due for the quarter.
- The **Faculty Mentor** is paid a stipend for supervising the co-op student.

Co-op Students Placed 2009-10

ACT	
Employer	Pay Rate
Gosiger Inc.	\$13.00
Integrated Design Solutions	\$14.00

ATI	
Employer	Pay Rate
ATT Government	\$15.00
Riverside Research Inc. (9 Co-ops)	Volunteer
Riverside Research Inc.	\$15.00

AVT	
Employer	Pay Rate
ABX Air	\$10.50
Air Tran Airways (2 Co-ops)	\$12.00
Aviation Sales	\$10.00
Commander Aero (2 Co-ops)	\$10.00
Commander Aero	\$15.00
Dayton Air Show (6 Co-ops)	Volunteer
Frontier Airlines	\$10.00
National Museum of USAF (7 Co-ops)	\$14.00
National Museum of USAF	\$18.00
Ohio National Guard	\$15.00
Piedmont Airlines	Volunteer
PSA Airlines (2 Co-ops)	Volunteer

Co-op Students Placed 2009-10

AVT (Continued)	
Employer	Pay Rate
U.S. Express	\$14.00
Wright Patterson AFB	\$14.00

BTN	
Employer	Pay Rate
City of Dayton	\$10.00

CAM	
Employer	Pay Rate
CAM Manufacturing (2 Co-ops)	\$12.00
Community Blood/Tissue Center	\$18.00
Custom/CMI	\$14.00
Dayton Progress (2 Co-ops)	\$10.00
Dayton Reliable Tool	\$15.00
Faxon Machining	\$11.00
Greene Tool	\$10.00
Mantych Metalworking (3 Co-ops)	\$11.00
MCD Plastics	\$11.00
Millat Industries	\$10.00
Select Tech Corporation	\$20.00
Tech Development	\$12.00
Triangle Precision (2 Co-ops)	\$12.00
Wray Precision	\$10.00

Co-op Students Placed 2009-10

CAT	
Employer	Pay Rate
Alan Scherr Associates	\$15.00
Alt&Witzig Engineering	\$10.50
Arcon Builders	\$12.00
Associated Excavating	\$12.50
Camp Marengo	\$10.00
Central State U/Design	Volunteer
Certified Energy Raters	\$12.00
City of Centerville	\$12.00
City of Dayton (9 Co-ops)	\$10.00
DAE Design (2 Co-ops)	\$12.00
Dayton Wall & Ceiling	\$10.00
Fraley Excavating	\$11.50
Fran Lillie Landscape	\$12.50
Fries Construction	\$11.00
Heskett Construction	\$10.00
Integrity Interiors	\$15.00
J.L. Kuck Contractor	\$16.00
Kniess & Associates	\$12.00
Key Construction	\$12.00
Miami Valley Communications	\$11.00
Moellering Industries	\$16.00
Montgomery County (3 Co-ops)	\$8.00
National Parks/Aviation Trail	\$18.00
nHealth Inc.	\$14.00

Co-op Students Placed 2009-10

CAT (Continued)	
Employer	Pay Rate
Patriot Engineering (3 Co-ops)	\$12.00
Patriot Engineering	\$15.00
Reddy Electric Company	\$13.00
Roark Builders	\$10.00
SCC Energy Lab	\$10.00
SCC Facilities	\$10.00
Wright Patterson AFB (2 Co-ops)	\$14.00
W.T. Rental Rehab	\$12.00
Tes Tech	\$12.00
Van Con General Contractor	\$10.00

EET	
Employer	Pay Rate
Combot Inc.	\$11.50
Hobart Ground Power	\$13.50
Honda of America	\$12.00
Kodak	\$13.00
Macaulay Brown	\$13.00
McGregor and Associates	\$10.50
National Museum of USAF (2 Co-ops)	\$12.00
National Museum of USAF (2Co-ops)	\$14.00
Precision Energy Technology	\$9.50
Sollman Electric	\$10.00
VRI Electronics	\$11.00

Co-op Students Placed 2009-10

ESUP	
Employer	Pay Rate
Air Force Institute of Technology (2 Co-ops)	\$12.00
City of Dayton (9 Co-ops)	\$9.00
Honda of America	\$12.00
National Museum of USAF (4 Co-ops)	\$14.00
NCR	\$14.00
Sinclair/Purdue	\$10.00
Sinclair/Chemistry	\$11.00
Sinclair/Chemistry	\$10.00
Wright Patterson AFB (10 Co-ops)	\$12.00
Wright Patterson AFB	\$14.00
Science Research	\$14.00
SOCHE/AFIT	\$14.00
StarCom/WPAFB	\$12.00

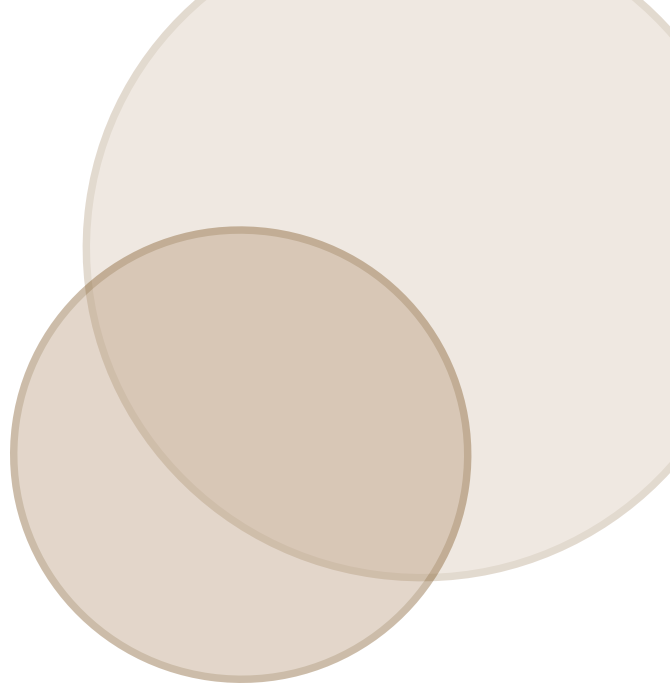
ETD	
Employer	Pay Rate
ATS Environmental	\$11.00
Benchmark Design	\$13.00
Honda of America	\$13.00
Labat Environmental	\$14.00
Lord Aerospace	\$10.50
National Museum USAF	\$14.00
Ohio EPA	\$12.00
United Solutions	\$14.00
Waibel Energy	\$10.00
Wright Patterson AFB	\$12.00

Co-op Students Placed 2009-10

EVT	
Employer	Pay Rate
L-3 Cincinnati Electronics (2 Co-ops)	\$12.00
City of Dayton	\$10.00
SCC/Environmental	\$10.00
Wright Patterson AFB (2 Co-ops)	\$14.00

OPT	
Employer	Pay Rate
Avery/Dennison	\$10.00
Delphi	Volunteer
Gayston	\$11.00
National Museum USAF	\$14.00

Walt Disney World	
Employer	Pay Rate
Walt Disney World (47 Co-ops)	\$7.25



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