

Student Name:

Program Dates: June 9, 2016 – July 1st, 2016

Total Credits (hours):

Innovation Project:

Learning Objectives

After completion of the YiQ Principles of Research and Innovation Program, students will be able to:

- Recognize problems that affect the public or the environment by using observation and critical thinking.
- Develop a solution, for a given problem, that is based on scientific concepts and by performing brainstorming sessions, conducting research, experimentation, problem solving, and by utilizing an idea selection process.
- Communicate the proposed solution of a problem to a broad audience by producing an oral presentation, and a poster presentation with time for questions and answers from the audience.
- Become familiar with at least two new career fields, two new STEM (science, technology, engineering, and math) concepts or skills, and with college life by attending and participating in workshops, seminars, lab experiments, and industry visits.

YiQ Certificate

A certificate of completion is awarded to students who complete and present an innovative project, and whose unexcused absences do not exceed 10% of the total length of the program. A certificate of participation is awarded to all other students.

Program Summary and Credits

Credits are measured in hours per session attended and in hours dedicated to independent project work.

Field	Session Type	Subject	Duration (Hours)	Facilitator/Institution
Communications	W	Stage Presence	1.5	Arts for Learning
Communications	P	Poster Creation and Editing	4.5	Luis A. Palacio, P.E. Health & Science Innovations
Communications	P	Presentation Editing and Practice	9	Luis A. Palacio, P.E. Health & Science Innovations
Communications	S	Professionalism I	1	Sydney Waller Health & Science Innovations
Communications	W	Professionalism II	1	Simone Murray Executive Director Direct Employers Institute
Engineering	W	Rocket Design	2	David Newill, President at Rolls-Royce Heritage Trust
Engineering	W	3D Modeling & Printing	4	1st Maker Space
Engineering	W	Flowchart Logic	1.5	Alex Jackson Health & Science Innovations
Engineering	S	Brain Surgery Engineering	1.5	NICO Corporation

Session Type: S=Seminar, W=Workshop, P=Project, I=Industry Visit, L=Lab Work

Program Summary and Credits (Continued)

Field	Session Type	Subject	Duration (Hours)	Facilitator/Institution
Engineering	W	Power Systems Engineering	1	Diana Vasquez Resource Interconnection Planning Engineer
Engineering	W	Building Mechanical Keyboards	2	Norberto Monarrez Health & Science Innovations
Engineering	I	Cummins, Inc. Visit	5	Cummins
Engineering	I	Biomedical Engineering	1	Matt Royal Director Biomedical Engineering, Eskenazi Hospital
Engineering	S	Project Management Basics	2	Glory Kulczycki Project Management Functional Excellence Leader, Cummins
Innovation	S	What is Innovation?	1.5	Luis A. Palacio, P.E. Health & Science Innovations
Innovation	S	Brainstorming	2.5	Luis A. Palacio, P.E. Health & Science Innovations
Innovation	P	Idea Research & Development	30	Health & Science Innovations
Innovation	P	Scoping a Project: Design of Experiments and Prototyping	2.5	Luis A. Palacio, P.E. Health & Science Innovations
Innovation	W	Design Thinking	2	Jairo Vinasco Visual Communication Specialist
Innovation	S	Legal Intellectual Protection	1	Dennis S. Schell Attorney & Partner, SmithAmundsen, LCC
Medicine	S	Kinesiology	1.5	Rafael E. Bahamonde Ph.D. Assoc. Dean, School of Physical Education and Tourism Management
Medicine	W	MRI Brain Scans And Neurology	3	Center for Diagnostic Imaging (CDI), and Alfredo Lopez-Yunez, M.D.
Medicine	S	Biomedical Research	1.5	Dr. Yin and Dr. Khambu, IU School of Medicine
Medicine	I	Clinical Medicine	2	Alfredo Lopez-Yunez, M.D. Alivio Medical Center
Science	L	Instrumentation and Measurements	2.5	Health & Science Innovations
Science	W	Laser Optics	1	Health & Science Innovations
Science	W	Forensics	1	Prof. Gina Londino Forensics Chemistry, IUPUI
Science	S	Ecology	1	Stefani Daryanto, Ph.D. Earth Sciences, IUPUI

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Program Summary and Credits (Continued)

Field	Session Type	Subject	Duration (Hours)	Facilitator/Institution
Science	S	Agricultural Sciences	1.5	Mohan Sarda Dow Agrosiences Science Ambassadors
Science	W	Genetics and Biotechnology	6.5	William Beeson, Ph.D. Great Lakes Biotechnology Academy
Science	I	Eli Lilly & Co. Visit	7	Eli Lilly & Co.
Science	S	Lab Safety	1	Department of Environmental Health & Safety, IUPUI
Technology	W	Nanotechnology	2	Mangilal Agarwal, Ph.D., Office of the Vice Chancellor for Research
Technology	W	Unity Coding Course	16	Eleven Fifty Academy
Technology	W	Electroencephalogram (EEG) Technology in Research and Machine Learning	1.5	Paula Angarita and Alex Jackson, Health & Science Innovations
Technology	S	Data Mining	1.5	Xia Ning, Ph.D., Computer and Information Science, IUPUI
Technology	S	Supercomputers	1	Fengguang Song, Ph.D. Computer and Information Science, IUPUI

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Employability Skills¹ Practiced

Throughout the program students had the opportunity to learn and practice the following skills:

SELF-MANAGEMENT

Pride in Work
Self-Discipline
Independence
Perseverance
Stress Management
Time Management
Adaptability
Integrity
Professionalism
Work Ethic

LEARNING STRATEGIES

Written Communication
Decision Making
Initiative
Technology Savvy
Attention to Detail
Organization
Information Gathering
Problem Solving

MINDSETS

Intellectual Risk Taking
Appreciation of Diversity
Self-confidence
Sense of belonging
Career Path

WORKPLACE SKILLS

Personal Safety
Follows Directions
Resource Allocation
Customer Service

SOCIAL SKILLS

Oral Communication
Teamwork
Leadership
Conflict Management
Self-Advocacy

¹Employability Skills as defined by the Indiana Department of Workforce Development:
http://www.in.gov/dwd/files/IN_Employability_Skills.pdf