แนวคิดในการปรับปรุงหลักสูตรเพื่ออนาคต

รศ.ดร.นาตยา ปิลันธนานนท์

27 ตุลาคม 2559

วิสัยทัศน์ (Vision)

ผลิตบัณฑิตที่มีคุณภาพ โดยบูรณาการการศึกษา ศาสนา ศิลปวัฒนธรรม นำวิทยาศาสตร์และเทคโนโลยีก้าวหน้า พัฒนาท้องถิ่นก้าวไกลสู่สากล

แผนยุทธศาสตร์

เป้าประสงค์ที่ 1 ปรับปรุงและพัฒนาหลักสูตรให้ทันสมัยสอดคล้องกับกรอบมาตรฐานคุณวุฒิแห่งชาติและความต้องการของสังคมชุมชนประเทศชาติ

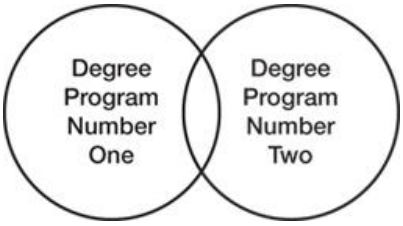
- กลยุทธ์ที่ 1 ปรับปรุงพัฒนาหลักสูตรให้สอดคล้องกับกรอบมาตรฐานคุณวุฒิระดับอุดมศึกษาแห่งชาติ และตามความต้องการของตลาดแรงงาน และกำกับการบริหารจัดการหลักสูตรให้มีประสิทธิภาพและประสิทธิผล
- กลยุทธ์ที่ 2 จัดการเรียนการสอนที่เน้นผู้เรียนเป็นสำคัญ และส่งเสริมทักษะการเรียนรู้ในศตวรรษที่ 21

ProActive

สร้างมูลค่าเพิ่มให้หลักสูตร

Accelerated Degrees

Concurrent Program



THE ARKANSAS STATE UNIVERSITY CONCURRENT PROGRAM

The A-State Concurrent Program is a partnership between the university and high schools to offer qualified high school students the opportunity to satisfy both high school and university credit requirements simultaneously through specific concurrent credit courses. Concurrent course offerings use the same curriculum as courses taught at the university while providing high school students with the opportunity to acquire some credit in college level general education courses.

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BIOL 1001 - Biological Science Laboratory – Two hours per week. It is recommended this course be taken concurrently with BIOL 1003. Special course fees may apply. 1.000 credit hours. (ACTS#: BIOL 1004; BIOL 1024)

BIOL 1003 – Biological Science – The major characteristics and processes of life emphasizing the human organism. Promotes understanding of diversity and unity among living organisms with focus on ecological interactions and responsibilities of people within their social and natural environment. Lecture three hours per week. Special course fees may apply. It is recommended that this course be taken concurrently with BIOL 1001. 3.000 credit hours. (ACTS#: BIOL 1004)

MATH 1023 – College Algebra - Equations and inequalities, functions and graphs, polynomial and rational functions, exponential and logarithmic functions, systems of equations and inequalities, matrices, and miscellaneous topics. No credit given if taken following MATH 1054. Prerequisite, High School Algebra II and score of 21* or above on ACT Math or 460 or above on SAT Mathematics or 41 or above on COMPASS Algebra or 42 or above on ASSET Algebra or a grade of C or better in MATH 0013 or completion of 12 modules in UC 0173 and UC 022V. 3.00 credit hours. (ACTS#: MATH 1103)
*ACT 19 acceptable based on extended classroom instructional time.

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MATH 1033 - **Plane Trigonometry** - Right triangles and similar triangles, trigonometric ratios, degrees, and radians, trigonometric functions, circular functions, trigonometric identities, inverse trigonometric functions, trigonometric equations, Law of Sines, Law of Cosines, vectors, polar coordinates, and complex numbers. No credit given if taken following MATH 1054. Prerequisite, High School Algebra II and score of 21* or above on Math ACT or 590 or above on SAT, or a grade of C or better in MATH 0013 or Corequisite, MATH 1023. 3.000 credit hours. (ACTS#: MATH 1203) *ACT 19 acceptable based on extended classroom instructional time.

MATH 1054 – Pre-Calculus Mathematics – Selected topics from algebra, trigonometry, and analytic geometry. Prerequisite, High School Algebra II and score of 24 or above on MATH ACT or 630 or above on SAT, or Math 1023. 3.000 credit hours. (ACTS#: MATH 1305)

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DUAL DC CREDIT
GO2COLLEGE IN HIGH SCHOOL

รศ.ดร.นาตยา ปิลันธนานนท์

University of Idaho
Spring 2017 Dual Credit Courses

รศ.ดร.นาตยา ปิลันธนานนท์

American Falls High School (Trimester 3)

Subj	Crse	Sect	CRN	Title	Cr Hrs	Cost	Start Date	End Date	HS Teacher(s)	UI Faculty Liaison
PLSC	201	99	70250	Principles of Horticulture	3	$195	Feb-27-2017	Jun-02-2017	Marcus Beitia	Bob Tripepi/ James Connors

North Gem High School - not yet confirmed by high school

Subj	Crse	Sect	CRN	Title	Cr Hrs	Cost	Start Date	End Date	HS Teacher(s)	UI Faculty Liaison
MATH	143	92	63620	Pre-calculus Alg/Analytic Geom	3	$231	Feb-20-2017	Jun-09-2017	Justin Williams	Theresa Allen
MATH	144	86	69494	Analytic Trigonometry	1	$101	Feb-20-2017	Jun-09-2017	Justin Williams	Theresa Allen
MATH	170	TBA	TBA	Analytic Geometry and Calculus I	4	$296	Feb-20-2017	Jun-09-2017	Justin Williams	Theresa Allen

Post Falls High School

Subj	Crse	Sect	CRN	Title	Cr Hrs	Cost	Start Date	End Date	HS Teacher(s)	UI Faculty Liaison
CHEM	101	99	68368	Introduction to Chemistry I	4	$260	Feb-20-2017	Jun-09-2017	Steven Mills	Daniel Stelck

Troy High School

Subj	Crse	Sect	CRN	Title	Cr Hrs	Cost	Start Date	End Date	HS Teacher(s)	UI Faculty Liaison
MATH	144	89	66821	Analytic Trigonometry	1	$101	Feb-20-2017	Jun-09-2017	Krystal Wasankari	Theresa Allen
FISH	102	99	71129	The Fish and Wildlife Professions	1	$65	Feb-20-2017	Jun-09-2017	Matt Bruns	Janet Rachlow

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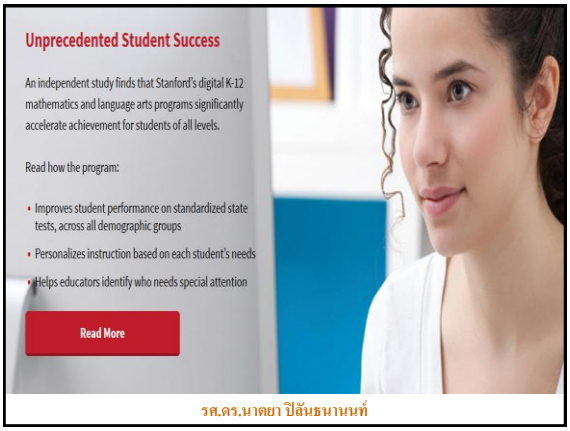

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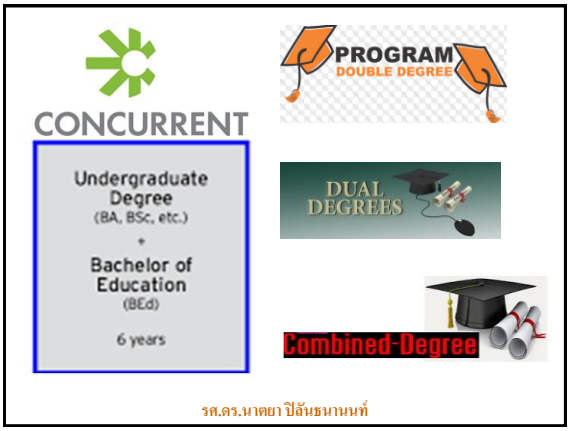

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Queen's University

FACULTY OF Education

Teacher Education (Concurrent)

Queen's Bachelor of Education (Concurrent) prepares secondary school graduates to become educators and qualify for Ontario College of Teachers certification.

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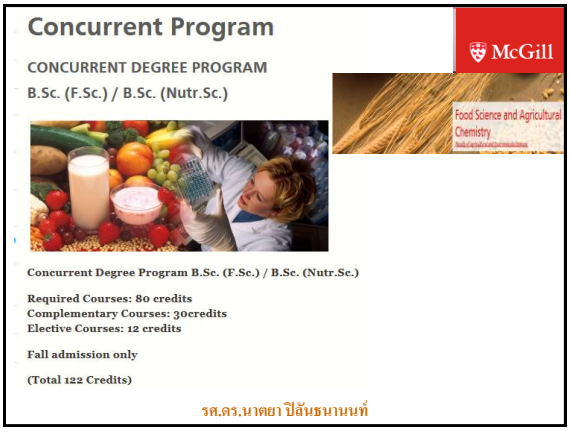

รศ.ดร.นาตยา ปิลันธนานนท์

NUS | Computing

Double Degree Programmes in Computer Science & Mathematics/ Applied Mathematics

Jointly offered by: School of Computing & Faculty of Science

Bachelor of Computing (Computer Science) (Honours) and Bachelor of Science (Mathematics/Applied Mathematics) (Honours/non-Honours)

Specialisations

Students in the Double Degree Programmes may choose to pursue one of the following two specialisations:

Algorithms and Computation

Multimedia Modelling

Each specialisation comprises advanced modules from both the Department of Mathematics and the Department of Computer Science.

รศ.ดร.นาตยา ปิลันธนานนท์

University at Buffalo The State University of New York

Finish in 4 Curricular Plan
Mathematics - Economics Joint BA

Finish in 4

A Finish in 4 Curricular Plan provides a roadmap for completing this academic program and the UB Curriculum in four years. Your actual plan may vary depending on point of entry to the university, course placement and/or waivers based on standardized test scores, earned alternative credit and/or college transfer credit.

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SFU SIMON FRASER UNIVERSITY ENGAGING THE WORLD

Computing Science

Home / Current Students / Graduate Students / Academic Programs / Concurrent BSc-MSc

CONCURRENT BACHELOR'S-MASTER'S PROGRAM

Students enrolled in a bachelor's degree program at SFU are qualified to be admitted into the concurrent bachelor's-master's program in the School of Computing Science. Students must have satisfactorily completed at least **90 credits of undergraduate work,** with a **cumulative GPA of at least 3.67/4.33** that includes at least 24 credits of upper division CMPT course work.

รศ.ดร.นาตยา ปิลันธนานนท์

THE UNIVERSITY OF SYDNEY • The Bachelor of Science in Combined Degrees

- Combined Degrees and Honours in Science
- Science & Arts
- Commerce & Science
- Science & Law
- Information Technology & Science
- Information Technology & Medical Science
- Engineering & Science
- Engineering & Medical Science
- Education (Sec: Mathematics) & Science
- Education (Sec: Science) & Science
- Science & Nursing
- Science & Medicine
- Science & Nutrition

รศ.ดร.นาตยา ปิลันธนานนท์

CONSECUTIVE

Undergraduate Degree
(BA, BSc, etc.)
4 years

then

Bachelor of Education
(BEd)
2 years

รศ.ดร.นาตยา ปิลันธนานนท์

NIPISSING UNIVERSITY

Bachelor of Education (BEd)-Consecutive

Graduation Requirements:

In addition to the program requirements listed below, students must also satisfy the Bachelor of Education degree requirements. Please refer to the Degree Requirement section for further information.

Program Requirements:

The Schulich School of Education offers a two-year consecutive program (after degree program) leading to a Bachelor of Education degree. In order to be admissible to this degree, students must possess or be graduating with an undergraduate degree. Please refer to the Admissions section for further details.

รศ.ดร.นาตยา ปิลันธนานนท์

Technical University of Munich

graduates with a Bachelor's in Mechanical Engineering can pursue a Master's in Industrial Design, Aerospace Engineering, Mechanical Engineering, Robotics | Cognition | Intelligence or Industrial Engineering

รศ.ดร.นาตยา ปิลันธนานนท์

ETH zürich Eidgenössische Technische Hochschule Zürich

Natural Sciences and Mathematics

Consecutive Master's degree
- Biology →
- Chemistry →
- Chemical and Bioengineering →
- Computational Science and Engineering →
- Interdisciplinary Sciences →
- Mathematics/Applied Mathematics →
- Pharmaceutical Sciences →
- Physics →

Specialised Master's degree
- High Energy Physics →
- Medicinal and Industrial Pharmaceutical Sciences (current programme) →
- Quantitative Finance →
- Statistics →

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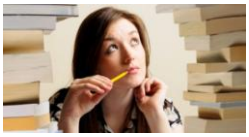

Exchange students

Visiting students

Non-Degree

รศ.ดร.นาตยา ปิลันธนานนท์

ETH zürich Eidgenössische Technische Hochschule Zürich

Non-degree courses

The following courses are intended for students who are enrolled at a different university and want to do part of their studies at ETH Zurich or attend specific courses at ETH Zurich.

You can find the various options here:
- Student exchanges and visiting studies →
- Summer schools →
- Special students →
- Auditors →

รศ.ดร.นาตยา ปิลันธนานนท์

Natural Sciences and Mathematics
- Biology Bachelor →
- Chemical Engineering Bachelor →
- Chemistry Bachelor →
- Computational Science and Engineering Bachelor →
- Interdisciplinary Science Bachelor →
- Mathematics Bachelor →
- Pharmaceutical Sciences Bachelor →
- Physics Bachelor →

System-oriented Natural Sciences
- Agricultural Bachelor →
- Earth Sciences Bachelor →
- Health Sciences and Technology Bachelor →
- Medicine (Human Medicine) Bachelor →
- Food Science Bachelor →
- Environmental Sciences Bachelor →

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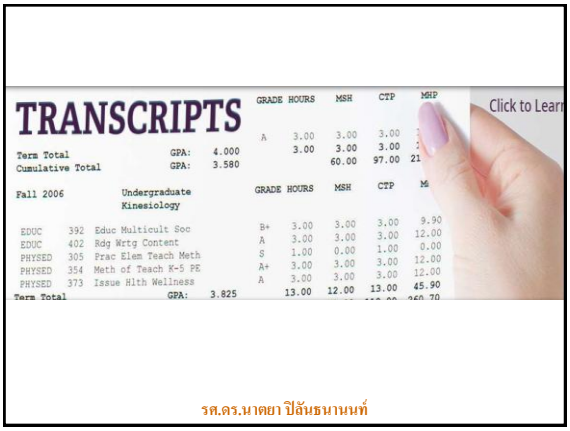
Non-Degree Courses

- **Growing the garden of your dreams?**
- **Preserving foods safely?**
- **Learning sound financial practices?**

รศ.ดร.นาตยา ปิลันธนานนท์



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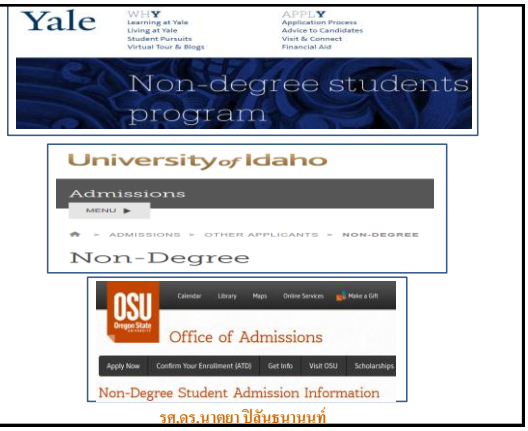


รศ.ดร.นาตยา ปิลันธนานนท์

รศ.ดร.นาตยา ปิลันธนานนท์

ระเบียบ สกอ.

- ใช้ภาษาเป็นสื่อในการเรียนการสอน
- เปิดโอกาสให้ชาวไทยและชาวต่างประเทศเข้าศึกษา
- อาจารย์ต้องมีประสบการณ์ในเนื้อหาวิชาที่สอนและมีความรู้ภาษาที่ใช้สอน อยู่ในเกณฑ์ดีมาก
- มีกิจกรรมการเรียนการสอนที่ส่งเสริมความเป็นนานาชาติ
- อุปกรณ์/สื่อการเรียนการสอนทันสมัย
- มีความร่วมมือทางวิชาการกับสถาบันต่างประเทศเพื่อการพัฒนาหลักสูตร

รศ.ดร.นาตยา ปิลันธนานนท์

- **multicultural content and context**
- **intercultural competencies**
- **global studies, internationalisation**
- **foreign language study**
- **study abroad**

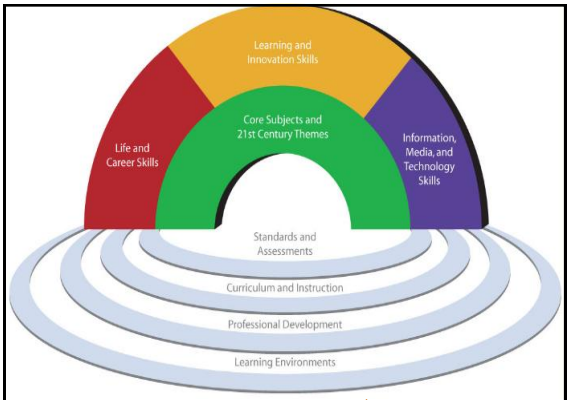
รศ.ดร.นาตยา ปิลันธนานนท์

- **international academic staff and students**
- **international collaborations**
- **domestic as well as foreign students**
- **international student mobility**
- **internationalisation at home for mobility-impaired students**

รศ.ดร.นาตยา ปิลันธนานนท์

curriculum innovation

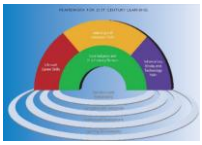
รศ.ดร.นาตยา ปิลันธนานนท์



รศ.ดร.นาตยา ปิลันธนานนท์

ทักษะการเรียน
- คิดสร้างสรรค์
- คิดวิจารณญาณ
- คิดแก้ปัญหา
- สื่อสาร
- ให้ความร่วมมือ

ทักษะการจัดการข้อมูลและเทคโนโลยี
- การเข้าถึง ประเมิน ใช้ และจัดการข้อมูล
- การวิเคราะห์ และสร้างสรรค์สื่อและเทคโนโลยี
- รู้เทคโนโลยีสารสนเทศอย่างใช้การได้



ทักษะชีวิตและการประกอบอาชีพ
- ยืดหยุ่น รู้จักปรับตัว
- มีความคิดริเริ่ม
- อยู่และทำงานร่วมกับผู้อื่นได้
- สร้างผลิตผลอย่างมีความรับผิดชอบ
- มีภาวะผู้นำ และรับผิดชอบต่อผู้อื่น

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การเรียนรู้ในศตวรรษที่ 21

ความรู้หลัก - knowledge
- ภาษาแม่ การอ่าน และ การใช้ภาษา
- ภาษาต่างประเทศ
- ศิลปะ
- คณิตศาสตร์
- เศรษฐศาสตร์
- วิทยาศาสตร์
- ภูมิศาสตร์
- ประวัติศาสตร์
- การปกครอง และหน้าที่พลเมือง

ถักทอ

การรู้เรื่อง - literacy
- โลกาภิวัตน์
- เศรษฐกิจ การเงิน ธุรกิจ การประกอบการ
- การเป็นพลเมืองดี
- สุขภาพ
- สิ่งแวดล้อม

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ระบบสนับสนุน

- มาตรฐาน และระบบการประเมิน
- หลักสูตร และการเรียนการสอน
- การพัฒนาอาจารย์
- สภาพแวดล้อมการเรียนรู้

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สังคม 4.0

เศรษฐกิจ 4.0

อุตสาหกรรม 4.0

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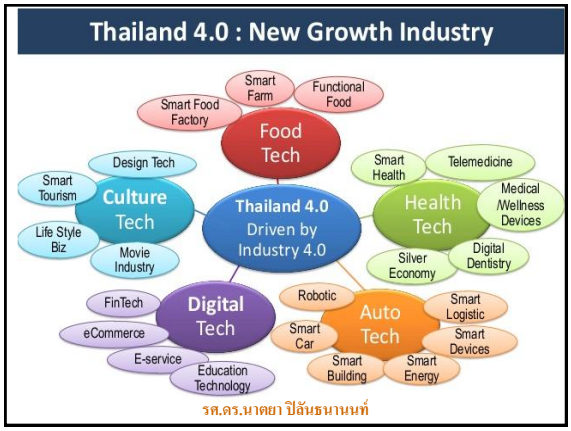

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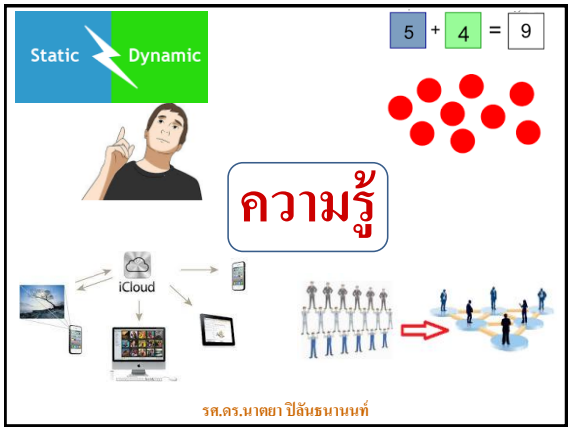

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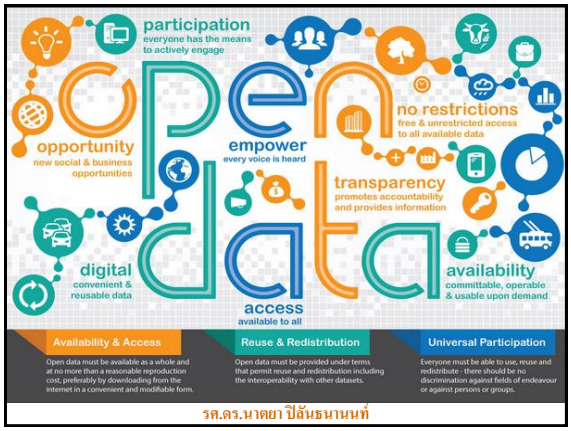

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What do employers want?

Skills	Attributes
Communication skills	Honesty/Integrity
Analytical/ Research skills	Flexibility/Adaptability
Computer/ Technical skills	Dedication/Hard working
Flexibility/Adaptability	Dependability/Reliability
Interpersonal skills	Loyalty
Leadership skills	Positive attitude/Motivation/Passion
Multicultural sensitivity	Professionalism
Planning/Organising skills	Self-confidence
Problem solving/Creativity	Self-motivation
Teamwork	Willingness to learn

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สำนักงานคณะกรรมการการอุดมศึกษา

กรอบมาตรฐานคุณวุฒิ ระดับอุดมศึกษา

Thai Qualifications Framework for Higher Education

QUALITY ASSURANCE

EdPEx
Education Criteria for Performance Excellence
เกณฑ์คุณภาพการศึกษาเพื่อการดำเนินการที่เป็นเลิศ

THE TIMES HIGHER EDUCATION WORLD UNIVERSITY RANKINGS

QS WORLD UNIVERSITY RANKINGS
TOP 50 UNDER 50

Green/Sustainablity -Based Curriculum

Northwestern University

Bachelor's degree

B.S in Environmental Engineering

- Energy and Sustainability
- Civil and Environmental Engineering
- Mechanical Engineering; Energy and Sustainability Specialization
- Project Management
- Environmental Sciences
- Environmental Policy and Culture
- Plant Biology and Conservation
- Earth and Planetary Sciences

chathamUNIVERSITY

site directory

ACADEMICS ADMISSION CAMPUS LIFE ATHLETICS ALUMNI GIVING ABOUT NEWS & EVENTS

home / academics / programs / graduate /

M.S. in Green Chemistry

Admission Requirements

Tuition & Fees

Curriculum

Green Chemistry Curriculum

Chatham's new Master of Science in Green Chemistry is the first program of its kind in the United States. Focused on delivering a truly unique educational experience for students with undergraduate degrees in biochemistry, biology, and chemistry, the M.S. in Green Chemistry program will delve into the design of products and processes that minimize the use and generation of hazardous substances. Graduates of the program will hold a competitive advantage over students from other chemistry programs that claim "green chemistry" as a departmental mission, as Chatham's program courses were developed specifically for the practice of green chemistry.

STOCKTON UNIVERSITY
NEW JERSEY'S DISTINCTIVE PUBLIC UNIVERSITY

SCHOOL OF NATURAL SCIENCES & MATHEMATICS

Sustainability Program

Degrees Offered

Students can pursue either a BA or a BS in Sustainability. Both degrees require a series of courses in the natural and physical sciences, and both share the same core program courses. However, the BS degree required a more rigorous background in physics and mathematics; and each option offers different opportunities for concentrations of study.

Students in the BA degree can choose to concentrate in environmental policy, or they can focus their studies in environmental management. The Policy concentration is ideal for students planning a career in public policy, environmental advocacy, non-profits, sustainable development or law. The concentration in Sustainability Management will help train students to work in business and industry as sustainability professionals.

Sufficiency Economy - Based Curriculum

รศ.ดร.นาตยา ปิลันธนานนท์

Social Responsibility Curriculum

รศ.ดร.นาตยา ปิลันธนานนท์

- กระบวนการเรียนการสอน การทำงาน การบริหารจัดการที่สะท้อนความรับผิดชอบ
- การมีส่วนร่วมกับชุมชน
- การสร้างสิ่งแวดล้อมที่ยั่งยืน
- งานวิจัยที่มีผลต่อสังคม
- คุณลักษณะบัณฑิตที่มีความรับผิดชอบต่อสังคม

รศ.ดร.นาตยา ปิลันธนานนท์

Universidad Europea
LAUREATE INTERNATIONAL UNIVERSITIES

SOCIAL RESPONSIBILITY

Universidad Europea admits and actively involves all campuses in its commitment to social responsibility, one of the cornerstones of its educational model. **Social responsibility** forms part of our university community and is reflected in the following objectives:

Educating in values throughout the learning process

- Raising awareness within the community on the importance of **being responsible and committed to society and the environment**.
- Encouraging **the whole community to take part** in different social and environmental activities.
- Promoting **social commitment and a sustainable use of resources** in every university school and department.

รศ.ดร.นาตยา ปิลันธนานนท์

UNIVERSITY OF WESTMINSTER

CORPORATE SOCIAL RESPONSIBILITY

The University of Westminster's Corporate Social Responsibility (CSR) programme reflects our commitment to operate in an environmentally sustainable and socially responsible manner.

As outlined in our CSR Strategy we are committed to enable change across the following priority areas:

1. Leadership and Governance
2. Environmental Sustainability
3. Education
4. Community and Business

รศ.ดร.นาตยา ปิลันธนานนท์

UNIVERSITY of York

M.Sc. Corporate Social Responsibility with Environmental Management

University of York | York, United Kingdom

รศ.ดร.นาตยา ปิลันธนานนท์

UNIVERSITY OF LEEDS

M.Sc. Sustainability and Business

The Sustainability and Business at University of Leeds is ideal if you wish to develop corporate responsibility strategies and enhance an organisation's social and environmental contributions. It can also lead you to careers in government or non-governmental organisations working in partnership with, or trying to influence business practice.

รศ.ดร.นาตยา ปิลันธนานนท์

UNIVERSITY OF WISCONSIN SUSTAINABLE MANAGEMENT

Sustainable Management Program ▾ Get Started ▾ Curre

UW Sustainable Management Master's Program Curriculum and Courses

UW Sustainable Management master's degree courses are fully online and all course content, from multimedia lectures and e-learning tools to homework assignments, will be delivered to you through the program's online learning management system. You can study and do homework whenever and wherever it's convenient for you.

The 34-credit master's degree program consists of a core curriculum, specialty track, and capstone experience, which is typically taken during the final semester. You are required to take 12 courses total. Each course in the core curriculum and specialty track is three credits. For semester schedules and a list of upcoming courses, visit our Course Schedule page.

Core Curriculum

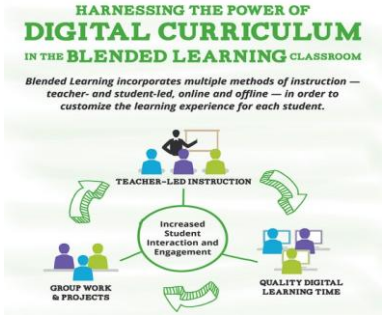
You are required to take the following eight courses.

รศ.ดร.นาตยา ปิลันธนานนท์

- SMGT 700: Cultural and Historical Foundations of Sustainability
- SMGT 710: The Natural Environment
- SMGT 720: Applied Research and the Triple Bottom Line
- SMGT 730: Policy, Law, and the Ethics of Sustainability
- SMGT 740: Economics of Sustainability
- SMGT 750: The Built Environment
- SMGT 760: Geopolitical Systems–Decision Making for Sustainability on Local, State, and National Levels
- SMGT 770: Leading Sustainable Organizations

รศ.ดร.นาตยา ปิลันธนานนท์

Digital Curriculum



รศ.ดร.นาตยา ปิลันธนานนท์

The Bachelor of Science (B.S.) degree provides deeper knowledge in the Digital Sciences and related areas than the Bachelor of Arts (B.A.) degree, with elective options to customize the degree for each student's particular interests and career goals.

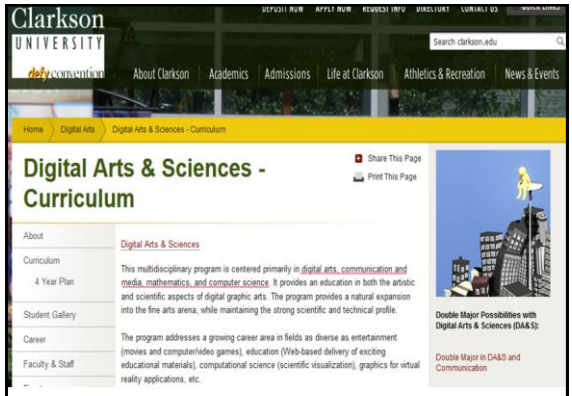
รศ.ดร.นาตยา ปิลันธนานนท์

- The **Digital Systems Software Development** concentration focuses on the **web site and software applications** needed by an organization and the **design and maintenance of a user interface and software system** to meet those needs.
- The **Digital Systems Interaction** concentration focuses on the **educational and interactive applications** needed by an organization and the **improvement of the user's interaction** with those applications.
- The **Digital Systems Telecommunication Networks** concentration focuses on the **communication infrastructure** needed by an organization and the **design and management of a telecommunication system and computer network** to meet those needs.
- The **Enterprise Architecture** concentration focuses on the **business processes and technology infrastructure** needed by an organization and the **design of software systems that are aligned with the processes and infrastructure** to support the goals of the business.

รศ.ดร.นาตยา ปิลันธนานนท์

- The **Digital Systems Analysis** concentration focuses on the **business data and software applications** needed by an organization and the **planning and management of a computer information system** to meet those needs.
- The **Digital Systems Management** concentration focuses on the **technical leadership** needed by an organization and the **management of the computer information system and infrastructure** to support the goals of the business.

รศ.ดร.นาตยา ปิลันธนานนท์



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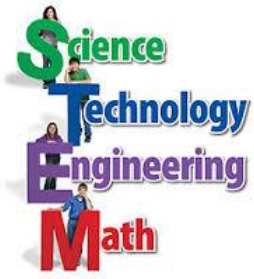
STEM Curriculum



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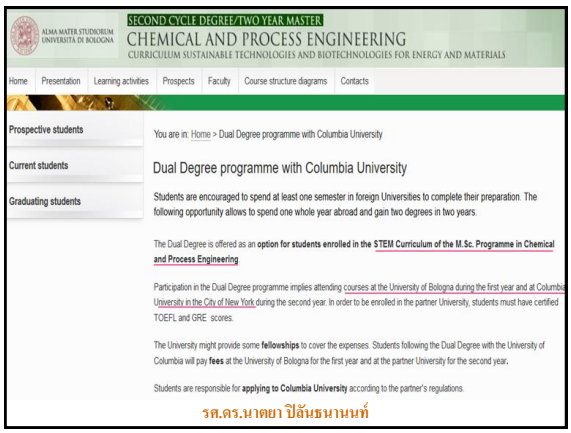

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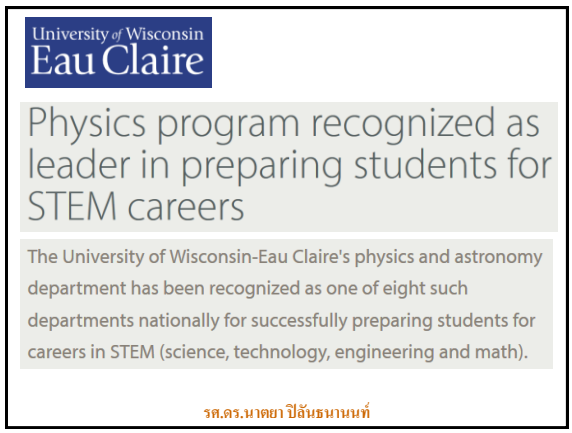


รศ.ดร.นาตยา ปิลันธนานนท์

CURRICULUM 4.0

รศ.ดร.นาตยา ปิลันธนานนท์

SAP University Alliances: Shaping the future of education

SAP University Alliances is a global program with more than 2,650 member institutions in over 90 countries that aims to shape the future of higher education. The program exposes students and faculty to the latest SAP technologies and enables universities and vocational schools to integrate SAP software into their teaching by partnering to build technology skills.

รศ.ดร.นาตยา ปิลันธนานนท์

SAP University Alliances

Industry 4.0: State-of-the-Art Manufacturing Opportunities for Universities

SAP University Alliances and Festo Didactic have agreed to collaborate on an overall vision: to jointly drive Industry 4.0 to academia globally, to train and qualify young talent for the future production world via the combined networks of faculty from Festo and SAP University Alliances. This collaboration was kicked off at the 19th SAP Academic Conference EMEA, Sept 9 & 10 in Berlin.

To fulfill this vision, a number of opportunities for faculty around the world have been created to engage with this new initiative, including bringing new Industry 4.0 curricula to classrooms; engaging students in Industry 4.0 events, crowdsourcing, and research; and driving joint thought leadership with SAP, Festo, other industry partners, and leading academics.

รศ.ดร.นาตยา ปิลันธนานนท์

BIRMINGHAM CITY University

Alliance develops smart workers of the future

UNIVERSITY NEWS | LAST UPDATED : 25 MARCH 2015

The University is at the heart of a global push to create a new generation of tech savvy manual workers, taking Britain into the fourth industrial revolution.

We are the only UK member of a global alliance of eight higher education establishments taking engineering and business teaching into a new era.

The aim is to equip the smart factories of the future with a leaner, more efficient workforce of production line workers skilled in IT, software and data handling.

รศ.ดร.นาตยา ปิลันธนานนท์

Certificate Summer School Production Technology Meets Industry 4.0

รศ.ดร.นาตยา ปิลันธนานนท์

รศ.ดร.นาตยา ปิลันธนานนท์

INDUSTRY BASED CURRICULUM

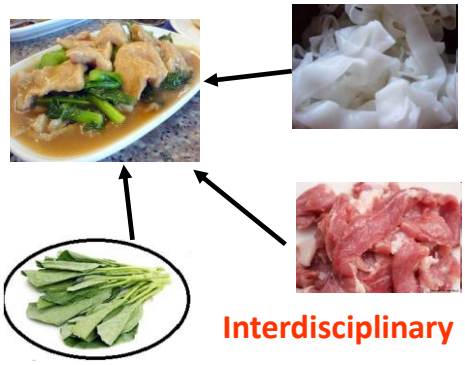
egran Lakecity University offers over 50 taught courses spanning a range of disciplines and subjects. All the courses aim to equip students with a curiosity - driven nd deep understanding of their subject, a critical approach and skills relevant to their future career. The curriculum for each individual course has been designed by perfect blend of inputs from renowned academicians and industry leaders who now constitute our respective academic board for each school. In liaison with cademicians, professionals and industry experts, we develop courses that make one attractive to future employers. The involvement of industry is not limited to the esigning of the curriculum, experts from various industry sectors are continually involved in the professional grooming of every student through the delivery and ssessment of courses, judging of presentations and providing feedback on students' performances at internships.

he specialized courses offered at JLU ensure to produce exceptional graduates with the perfect education, industry oriented skills and attributes necessary to ucceed in the changing work environments across the globe. For many courses a placement year or short-term work internships are available to give students s irst-hand experience of the work cultures in top corporate and brands. Most of the courses have a strong vocational focus and carry full or partial professiona ccreditation or recognition. Our endeavor is to make every graduating student academically excellent and professionally groomed to assume leadership roles in very sector of the industry and economy.

รศ.ดร.นาตยา ปิลันธนานนท์

Multidisciplinary

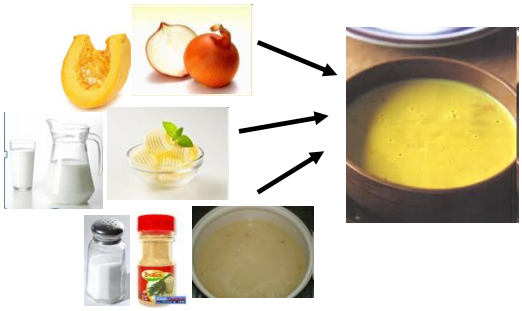
รศ.ดร.นาตยา ปิลันธนานนท์



Interdisciplinary

รศ.ดร.นาตยา ปิลันธนานนท์

Transdisciplinary



รศ.ดร.นาตยา ปิลันธนานนท์

MULTIDISCIPLINARY DESIGN PROGRAM University of Michigan

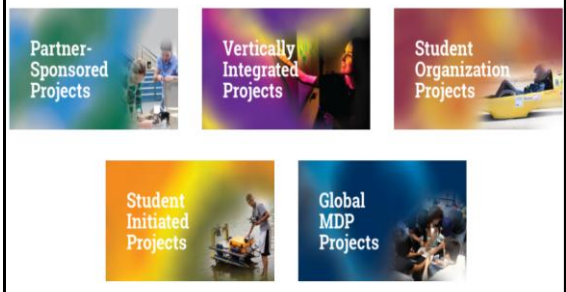
The Multidisciplinary Design Program in the College of Engineering offers students a wide variety of exciting, long-term, team-based projects. We partner with top research faculty and industry leaders to bridge the gap between the classroom and professional experience. In addition, the Multidisciplinary Design Program pilots new models for experiential learning and conducts educational methods research to improve the quality of the experiential learning opportunities we offer.

Students participate in MDP by joining a Faculty Research or externally-sponsored project, attending a technical workshop or traveling with us on one of our industry site visits.

The program is focused on engineering projects, but is open to any student on campus. Undergraduate students may complete a minor in Multidisciplinary Design awarded from the college of engineering. Eleven UM colleges are represented in the MDP student body: **Engineering (82%)** also represented are **Literature, Sciences & the Arts, School of Information, Art & Design, Ross School of Business, School of Music Theater and Dance, Taubman School of Architecture and Urban Planning, School of Kinesiology, School of Social Work, School of Education, and** many more..

รศ.ดร.นาตยา ปิลันธนานนท์

- Five Types of MDP Projects



รศ.ดร.นาตยา ปิลันธนานนท์

MDP Courses

- ENGR 255. Introductory Multidisciplinary Engineering Project
- ENGR 355. Intermediate Multidisciplinary Engineering Project
- ENGR 455. Advanced Multidisciplinary Engineering Project
- ENGR 599. Special Topics in Engineering
- ENGR 456. Mentorship-Leadership in Multidisciplinary Design

รศ.ดร.นาตยา ปิลันธนานนท์

Vassar College Multidisciplinary Programs

Environmental Studies

This program invites students to explore environmental issues through a wide range of perspectives in the social and natural sciences, as well as the humanities and the arts. Students combine work in a particular field of their choice with multidisciplinary courses, often team-taught, in the program. The major involves field experience undertaken in regional settings (such as Vassar's 416-acre ecological preserve and urban ecology projects in New York City) and through international programs. Introductory and senior seminars frame the major, which also includes a senior project or thesis of the student's own design.

Graduates from the ENST program go on to pursue graduate education in areas such as urban ecology, environmental policy, public health, environmental law, environmental management, and environmental science. Others go on to a wide variety of careers in which a multidisciplinary perspective is valuable, including environmental education, environmental consulting, sustainable agriculture, green architecture, marine conservation, and environmental journalism.

รศ.ดร.นาตยา ปิลันธนานนท์

Science, Technology and Society

This multidisciplinary program engages broadly the conversation on the intersections between science, technology, and a breadth of social, political, historic, economic and philosophic contexts which shape and, in turn are shaped by, science and technology. More specifically, the curriculum in Vassar's STS Program is designed to enable students to understand the central role of science and technology in contemporary society; to examine how science and technology reflect their social, political, philosophical, economic, and cultural contexts; and to explore the human, ethical, and policy implications of current and emerging technologies. A senior thesis and senior colloquium are required.

รศ.ดร.นาตยา ปิลันธนานนท์

Urban Studies

The transformation of cities and their surrounding regions, urban history and geography, social problems of urban life, design of the built environment, and past and present programs of urban planning are among the major themes in this multidisciplinary program. In addition to coursework in a wide range of departments, students gain applied experience by engaging in field research, taking courses in urban practice, completing an optional senior thesis or project, and doing field work with a governmental agency, community group, or professional organization. The program also offers a correlate sequence.

รศ.ดร.นาตยา ปิลันธนานนท์

Carnegie Mellon University

MULTIDISCIPLINARY GRADUATE PROGRAMS

Energy Science, Technology and Policy (ESTP)

Energy Science, Technology and Policy (ESTP) is an interdisciplinary professional master's for students who seek a distinctive engineering degree that is aligned with new discoveries in energy science and technology, attuned to sustainability and the environment, and informed by economics and policy. Full-time students with an undergraduate degree in engineering or the sciences can complete the ESTP M.S. degree in one academic year.

Engineering & Technology Innovation Management (E&TIM)

Engineering & Technology Innovation Management (E&TIM) is an interdisciplinary MS program that provides candidates with science and engineering backgrounds with an understanding of the fundamentals of innovation and value creation, while also strengthening technical insights. It is appropriate for those who aspire to lead technology development and engineering, create new technology-enabled ventures, develop business technology strategies, or design policies to encourage technological innovation. E&TIM applicants can choose to pursue a dual degree with several of the university's engineering departments.

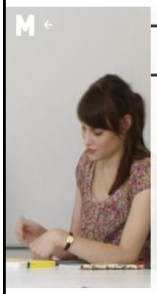
รศ.ดร.นาตยา ปิลันธนานนท์

Colloids, Polymers and Surfaces (CPS)

When manufacturing chemical products, the application of colloid, polymer, or surface science is often vital, yet these subjects receive minimal coverage in most engineering and science curricula. The Colloids, Polymers and Surfaces (CPS) program focuses on these topics, which are relevant to many industries including coatings and paints, nanotechnology, pharmaceuticals, synthetic and biopolymer manufacture, cosmetics and personal care, environmental remediation, catalysis, and surfactants. This MS degree is offered jointly by the Carnegie Institute of Technology and the Mellon College of Science.

รศ.ดร.นาตยา ปิลันธนานนท์

SAARLAND UNIVERSITY



Interdisciplinary

Saarland University provides an excellent environment for students looking to pursue an interdisciplinary Master's degree. The university places particular emphasis on interaction and collaboration between academic disciplines, and the campus environment encourages and facilitates close ties between departments.

Saarland University's Cluster of Excellence "Multimodal Computing and Interaction" is associated with a large number of the interdisciplinary programmes in informatics and computer science, such as:

- Bioinformatics
- Embedded Systems
- Language Science and Technology
- Media Informatics
- Security and Privacy
- Visual Computing
- Materials Chemistry
- Microtechnology and Nanostructures

รศ.ดร.นาตยา ปิลันธนานนท์

Stanford University

- Biophysics Program
- Computational and Mathematical Engineering,
- Earth Systems Program
- Interdisciplinary Program in Environment and Resources
- Global Studies
- Human Biology
- Human Computer Interaction Program
- Mathematical & Computational Science Program
- Symbolic Systems Program

รศ.ดร.นาตยา ปิลันธนานนท์

ST. OLAF COLLEGE

Chemistry Department

Welcome to the St. Olaf College Chemistry Department! The Chemistry Department offers courses in the traditional major areas of chemistry, as well as in interdisciplinary areas, such as biochemistry, bioanalytical chemistry, biophysical chemistry, environmental chemistry and organometallic chemistry.

รศ.ดร.นาตยา ปิลันธนานนท์

CGU

Transdisciplinary Studies Program

Claremont GRADUATE UNIVERSITY

Our current initiative," Big Data, Better World?", is an example of transdisciplinary thinking and doing. We are bringing together technologists, humanists, social scientists, and business leaders both to leverage the power of this new mode of knowledge creation and to critically consider its impacts on individuals and society.

Courses

Since 2005, we have offered over 80 transdisciplinary courses. These courses introduce students to the practices of transdisciplinary inquiry and foster collaborations across fields and schools that would not necessarily occur in traditional single-discipline courses. Our current course offerings are:

- Extremism in Society
- Working Across Cultures
- Exploring Judeo-Christian Knowledge across the Disciplines
- Data Analytical Tools, Technologies and Applications Across the Disciplines
- Cybersecurity in a Changing World
- Social Entrepreneurship and Social Impact
- Digital Humanities
- Regional & Global Power Struggle in the Middle East

รศ.ดร.นาตยา ปิลันธนานนท์

วิทยาศาสตร์สร้างองค์ความรู้ บูรณาการศาสนา ศิลปวัฒนธรรม นำสังคม

มหาวิทยาลัยราชภัฏพระนคร

วิสัยทัศน์ (Vision)

ผลิตบัณฑิตที่มีคุณภาพ โดยบูรณาการการศึกษา ศาสนา ศิลปวัฒนธรรม นำวิทยาศาสตร์และเทคโนโลยีก้าวหน้า พัฒนาท้องถิ่นก้าวไกลสู่สากล

แผนยุทธศาสตร์

เป้าประสงค์ที่ 1 ปรับปรุงและพัฒนาหลักสูตรให้ทันสมัยสอดคล้องกับกรอบมาตรฐานคุณวุฒิแห่งชาติและความต้องการของสังคมชุมชนประเทศชาติ

- กลยุทธ์ที่ 1 ปรับปรุงพัฒนาหลักสูตรให้สอดคล้องกับกรอบมาตรฐานคุณวุฒิระดับอุดมศึกษาแห่งชาติ และตามความต้องการของตลาดแรงงาน และกำกับการบริหารจัดการหลักสูตรให้มีประสิทธิภาพและประสิทธิผล
- กลยุทธ์ที่ 2 จัดการเรียนการสอนที่เน้นผู้เรียนเป็นสำคัญ และส่งเสริมทักษะการเรียนรู้ในศตวรรษที่ 21

รศ.ดร.นาตยา ปิลันธนานนท์

รศ.ดร.นาตยา ปิลันธนานนท์

รศ.ดร.นาตยา ปิลันธนานนท์