

Practical Knowledge for the Twenty-first Century



MINERVA

93%

of employers said a demonstrated capacity to think critically, communicate clearly and solve complex problems is more important than a job candidate's undergraduate degree.

Source: 2013 study by the Association of American Colleges and Universities

**What is the most common job in
America today?**

What will it be in 10 years?



Google

self-driving car

6UEJ089

**The world is
changing rapidly**

complex

interconnected

open

**Universities must
evolve in response**

global

innovative

accessible

A Future-Proof Education



Practical Knowledge

Students master critical thinking, creative thinking, effective communication and interaction



Engaging Classroom(s)

All classes are small interactive seminars, based on the science of learning, which demand full participation.



Global Immersion

Students live and learn in seven of the world's greatest cities, engaging with a range of diverse cultures and societies.



Accessible Admissions

Minerva is the only highly-selective institution to admit students based entirely on merit and meet the full financial need of every student that qualifies.

Goals for graduates

Leaders

Innovators

Broad thinkers

Global citizens

We can organize the practical knowledge required to achieve these goals into four large competencies.

Four Core Competencies

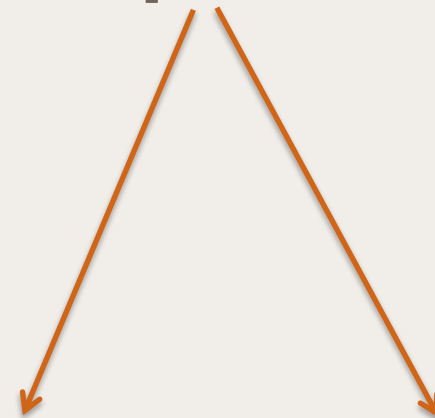
Personal



**Thinking
critically**

**Thinking
creatively**

Transpersonal



**Communicating
effectively**

**Interacting
effectively**

Specific Aspects (examples):

Thinking critically: *evaluating claims, weighing decisions*

Thinking creatively: *solving problems, facilitating discovery*

Communicating effectively: *writing clearly, presenting effectively*

Interacting effectively: *negotiating, working on teams*

Each aspect of a core competency is carried out by specific *habits of mind* and *foundational concepts*

Habits of mind

Automatic cognitive skills

Examples of habits of mind

Use “plausibility checks” to determine whether claims are reasonable

Use principles of effective debating

Identify your audience and tailor oral and written work accordingly

Ask yourself who stands to lose if a decision is made a certain way

Foundational concepts

**Knowledge that promotes
subsequent learning**

Examples of foundational concepts

Cost-benefit analyses

Statistical significance, practical significance, and effect size

Aspects of the underlying structure of stories that make them engaging

Principles of multimodal perception that affect design (including of presentations)

**Minerva has designed a
four-year undergraduate
education to develop key
habits of mind and
foundational concepts
*intentionally***

Early 20th Century: Great Books Programs



Early 21st Century: A Great Cognitive Tools Program



Thinking Critically

Formal Analyses

Focus on Thinking Critically

Deep training in advanced logic, rational thought, statistics, computational thinking, and formal systems

Communicating Effectively

Multimodal Communications

Focus on Communicating Effectively

Learning effective reading and writing, visual communication, public speaking, roles of art and music in communication

Thinking Creatively

Empirical Analyses

Focus on Thinking Creatively

Acquiring the ability to use the scientific method to frame problems, test hypotheses and engage in informed conjecture

Interacting Effectively

Complex Systems

Focus on Interacting Effectively

Understanding multiple causality, multi-factor interactions, group project collaboration, negotiation, leadership, and formal debate

A journey toward mastery

Practice over contexts and time

**Habits of mind and foundational
concepts used over next 3 years**

First-year grades are provisional

	Primary Goal	Central Challenge	Curricular Design
Year 4	Effective Communication; Effective Interaction (<i>plus</i> earlier)	Write and Present Capstone; Use Senior Tutorial To Explore Subjects Deeply	Begin the journey to deep expertise, synthesize, and translate to real world applications
Year 3	Creative Thinking (<i>plus</i> Critical Thinking)	Concentration as Springboard to Capstone	The creative process in the context of a field
Year 2	Critical Thinking	Evaluate Majors	Analyzing the central questions and methods of the major
Year 1	Foundations in Four Competencies	Make Material Intuitive	Introduction of HCs with far transfer

Continuing the journey

Five majors, providing broad context

Four interdisciplinary concentrations in each major

Practical knowledge culminating in the creation of something new

	Single Concentration	Double Concentration	Double Major
Year 4 8 courses	2 Core Required 1 Conc Required 3 Open 2 Senior Tutorials	2 Core Required 2 Conc Required 4 Senior Tutorials	2 Core Required 2 Conc Required 4 Senior Tutorials
Year 3 8 courses	2 Core Required 2 Conc Required 4 Open	2 Core Required 3-4 Conc Required 2-3 Open	2 Core Required 4 Conc Required 2 Open
Year 2 6 courses	3 Core Required 3 Core Electives	3 Core Required 3 Core Electives	6 Core Required
Year 1 8 courses	8 Cornerstones	8 Cornerstones	8 Cornerstones

	Business Single Concentration	Business Double Concentration	Business Arts & Sciences Double Major
Year 4 8 courses	2 Core Required 2 Conc Required 4 Open	2 Core Required 4 Conc Required 2 Open	2 Core Required 3 Conc Required 2 Senior Tutorials 1 Open
Year 3 8 courses	2 Core Required 2 Conc Required 4 Open	2 Core Required 3-4 Conc Required 2-3 Open	3 Core Required 4 Conc Required 1 Open
Year 2 6 courses	4 Core Required 2 Core Electives	4 Core Required 2 Core Electives	6 Core Required
Year 1 8 courses	8 Cornerstones	8 Cornerstones	8 Cornerstones

Six concentrations in each major

Systematically defined

Encourages dual concentrations

Matrix approach

	Mind and Emotion	Economic Markets	Global Governance
Theoretical Approaches	SocSci 110: Theories of Mind and Emotion	SocSci 111: Econometrics and Economic Systems	SocSci 112: Constructing Theories of Good Government
Empirical Approaches	SocSci 210: Cognitive Neuroscience	SocSci 211: Capital Markets	SocSci 212: World Political Systems in Practice
Designing Societies	SocSci 310: The Science of Influence and Motivation	SocSci 311: Taxation, the Common Good, and Freedom	SocSci 312: Designing Constituions

These fundamental skills cannot easily be taught in lectures.

Lectures are a great way to teach, but a terrible way to learn.

Active Learning



The science of learning has demonstrated the power of **active learning**.

If you want to learn practical knowledge, you must use practical knowledge.

The Minerva Seminar

Every class is seminal

Capped at less than 20 students

Fully active learning

Oxford-style Senior Tutorials

Three students and a professor

Student-designed syllabus

Deep interaction

Oxford-style Senior Tutorials

Avoids restrictive electives (which are often faculty hobbies)

Student centered: Allows a very wide range of options

Personalized instruction

Co-curricular immersion

Live in 7 different global capitals using the city as campus

Behind the scenes access to major cultural, political, and business figures

Far transfer of what is learned in class to the real world

“So far, most of the talk about online education has been on technology and lectures, but the important challenge is technology and seminars. So far, the discussion is mostly about technical knowledge, but the future of the universities is in practical knowledge.”

-David Brooks, *The New York Times*

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