

micro economics 1st b com Printable PDF

Micro Economics 1st B Com: A Comprehensive Guide for Students

Understanding the fundamentals of microeconomics is essential for students pursuing their first year of Bachelor of Commerce (B.Com). Microeconomics 1st B Com provides the foundational knowledge necessary to analyze individual markets, consumer behavior, and business decision-making processes. This article aims to provide an in-depth overview of microeconomics tailored specifically for 1st-year B Com students, covering key concepts, importance, syllabus, and practical applications.

What is Microeconomics?

Microeconomics is a branch of economics that focuses on the behavior of individual economic agents such as consumers, firms, and industries. It examines how these agents make decisions regarding the allocation of scarce resources and how these decisions influence supply, demand, prices, and the overall functioning of specific markets.

Importance of Microeconomics for 1st B Com Students

Understanding microeconomics is crucial for aspiring commerce students because:

- It provides insights into consumer and producer behavior, essential for business strategies.
- It helps in understanding how prices are determined in various markets.
- It lays the groundwork for studying macroeconomic concepts later in the course.
- It aids in developing analytical skills necessary for managerial decision-making.
- It prepares students for careers in finance, marketing, and economic policy analysis.

Syllabus Overview of Microeconomics in 1st B Com

The syllabus for microeconomics in the 1st-year B Com typically covers the following key topics:

1. Introduction to Microeconomics

- Nature and scope of microeconomics
- Difference between microeconomics and macroeconomics
- Basic economic problems: scarcity and choice

2. Consumer Behavior and Utility Analysis

- Law of demand
- Utility and how consumers make choices
- The law of diminishing marginal utility
- Indifference curve analysis
- Budget constraints

3. Producer Behavior and Production Theory

- Law of supply
- Production functions
- Law of variable proportions
- Returns to scale

4. Price Determination in Different Markets

- Equilibrium price and quantity
- Market structures: perfect competition, monopoly, monopolistic competition, and oligopoly

5. Market Failures and Government Intervention

- Externalities
- Public goods
- Price controls and subsidies

Key Concepts in Microeconomics for 1st B Com Students

A solid grasp of core concepts is vital for mastering microeconomics. Some of the most important topics include:

1. Demand and Supply

Demand and supply are fundamental to understanding market dynamics.

- **Law of Demand:** There is an inverse relationship between price and quantity demanded.

- **Law of Supply:** There is a direct relationship between price and quantity supplied.
- **Market Equilibrium:** The point where demand equals supply, determining the market price.

2. Elasticity of Demand and Supply

Elasticity measures the responsiveness of quantity demanded or supplied to changes in price.

- Price elasticity of demand
- Income elasticity
- Cross elasticity
- Price elasticity of supply

3. Consumer Theory

Focuses on how consumers maximize utility within their budget constraints.

- Utility maximization
- Indifference curves and budget lines
- Consumer equilibrium

4. Production and Costs

Analyzing how firms decide on output levels.

- Production functions
- Short run and long run costs
- Economies and diseconomies of scale

Practical Applications of Microeconomics

Microeconomics offers valuable insights applicable in various real-world contexts, especially for commerce students:

- **Pricing Strategies:** Understanding demand elasticity helps in setting optimal prices.
- **Market Analysis:** Recognizing market structures aids in competitive positioning.
- **Policy Formulation:** Analyzing externalities and public goods informs government policies.
- **Business Decisions:** Cost analysis and production theories guide operational choices.

- Consumer Behavior: Insights into preferences and utility assist in marketing strategies.

Study Tips for Microeconomics 1st B Com Students

To excel in microeconomics, students should adopt effective study strategies:

- Understand Concepts: Focus on grasping fundamental ideas rather than rote memorization.
- Use Diagrams: Visual representations like graphs and indifference curves enhance understanding.
- Practice Numerical Problems: Regular practice of calculations related to elasticity, costs, and equilibrium strengthens application skills.
- Participate in Discussions: Engage in classroom debates and group discussions to clarify doubts.
- Refer to Multiple Resources: Utilize textbooks, online tutorials, and past exam papers for comprehensive preparation.

Conclusion

Microeconomics 1st B Com forms the backbone of understanding how individual markets operate and how economic agents make decisions. Mastery of this subject equips students with analytical tools essential for tackling real-world business and economic issues. As students progress through their course, the foundational knowledge gained from microeconomics will serve as a stepping stone toward more advanced economic studies and practical applications in their careers.

Whether you are aiming to become a business analyst, economist, or manager, a solid understanding of microeconomics is indispensable. Embrace the concepts, practice regularly, and stay curious to unlock the potential of microeconomic principles in shaping your academic and professional future.

Micro Economics 1st B Com is a foundational course designed to introduce students to the core principles and concepts that govern individual economic units, such as consumers and firms. As part of the Bachelor of Commerce curriculum, this subject provides essential insights into how markets function, how prices are determined, and how various factors influence individual decision-making. For students pursuing a B Com degree, mastering Micro Economics is crucial not only for academic success but also for understanding real-world economic phenomena that impact everyday life. This article aims to offer a comprehensive review of Micro Economics 1st B Com, exploring its key topics, structure, strengths, and areas for improvement.

Overview of Micro Economics in the B Com Curriculum

Micro Economics forms the bedrock of economic understanding at the undergraduate level. The course typically covers basic principles, theories, and models that explain the behavior of individual economic agents – consumers, producers, and markets. It emphasizes analytical skills, problem-solving, and the ability to interpret economic data, making it an essential component of the B Com program.

The course is structured to gradually build students' understanding, starting with fundamental concepts like demand and supply, and progressing toward more complex topics such as market equilibrium, elasticity, consumer behavior, and production theories. This progression ensures that students develop a solid conceptual foundation that can be applied to various economic analyses.

Core Topics Covered in Micro Economics 1st B Com

1. Introduction to Micro Economics

This section introduces students to the scope and importance of microeconomics. It explains how microeconomics differs from macroeconomics and emphasizes its focus on individual units within the economy.

Features:

- Clarification of basic economic problems like scarcity and choice
- Role of microeconomics in policymaking and business decisions

Pros:

- Provides context for subsequent topics
- Establishes foundational understanding

2. Demand and Supply Analysis

One of the most vital topics, demand and supply analysis, explores how prices are determined in markets through the interaction of buyers and sellers.

Features:

- Law of Demand and Law of Supply
- Determinants of demand and supply

- Price elasticity of demand and supply
- Market equilibrium and shifts

Pros:

- Fundamental for understanding market dynamics
- Practical relevance in pricing strategies

Cons:

- Sometimes overly simplified models may not capture real-world complexities

3. Consumer Behavior and Utility Analysis

This section delves into how consumers make choices based on preferences and budget constraints.

Features:

- Concept of utility and marginal utility
- Consumer equilibrium
- Law of diminishing marginal utility
- Indifference curve analysis

Pros:

- Explains consumer decision-making logically
- Useful for marketing and business strategies

Cons:

- Assumes rational behavior which may not always reflect actual consumer actions

4. Production and Costs

Focuses on how firms produce goods and services, and the associated costs.

Features:

- Production functions and returns to scale
- Short-run and long-run costs
- Concepts of fixed and variable costs
- Law of diminishing returns

Pros:

- Essential for understanding firm behavior
- Links microeconomics to business planning

Cons:

- Some models are idealized and assume perfect competition

5. Market Structures

Examines different types of market organizations and their characteristics.

Features:

- Perfect competition
- Monopoly
- Monopolistic competition
- Oligopoly

Pros:

- Helps students understand competitive and non-competitive markets
- Critical for analyzing market failures and regulation

Cons:

- Simplified assumptions may not reflect real-world market complexities

Pedagogical Approach and Teaching Methodologies

Micro Economics 1st B Com typically employs a blend of teaching strategies to ensure comprehensive understanding:

- Lectures and Classroom Discussions: Fundamental concepts are introduced and debated.
- Case Studies: Real-world examples help contextualize theories.
- Numerical Problems: Solving mathematical problems enhances analytical skills.
- Group Projects: Encourage collaborative learning and application of concepts.
- Use of Visual Aids: Diagrams, charts, and graphs to illustrate demand-supply curves, indifference curves, etc.

This multi-faceted approach caters to diverse learning styles and helps students grasp both theoretical and practical aspects.

Strengths of the Micro Economics 1st B Com Course

- Comprehensive Coverage: The syllabus covers all essential microeconomic concepts needed for a solid understanding.
- Practical Relevance: Topics are linked to real-world scenarios, making learning engaging and applicable.
- Skill Development: Emphasizes analytical and problem-solving skills, vital for future business managers and economists.
- Foundation for Advanced Studies: Serves as a stepping stone for macroeconomics, managerial economics, and other specialized courses.
- Preparation for Competitive Exams: Concepts like demand-supply, elasticity, and market structures are frequently tested.

Challenges and Areas for Improvement

While the course is well-structured, there are some challenges and areas where it could be enhanced:

- Theoretical Complexity: Some topics involve abstract models that may be difficult for beginners.
- Over-reliance on Assumptions: Many models assume perfect competition, rational behavior, and other ideal conditions that are rarely observed in reality.
- Mathematical Rigor: The increasing use of mathematics can be intimidating for students with weaker quantitative skills.

- Limited Emphasis on Contemporary Issues: Topics like behavioral economics, digital markets, and environmental economics are often underrepresented.
- Need for Practical Exposure: More case studies and industry interaction could improve understanding of practical applications.

Features and Highlights of the Course

- Structured Learning: Clear module division facilitates step-by-step comprehension.
- Interactive Content: Use of multimedia and digital tools enhances engagement.
- Assessment and Feedback: Regular quizzes, assignments, and exams help track progress.
- Focus on Critical Thinking: Encourages questioning and analysis beyond rote memorization.
- Preparation for Future Careers: Equips students with analytical capabilities useful in various fields like finance, marketing, and consultancy.

Conclusion and Final Thoughts

Micro Economics 1st B Com is an integral part of the commerce undergraduate curriculum, offering students vital insights into how individual economic agents operate and interact within markets. Its structured approach, combining theoretical frameworks with practical applications, makes it a valuable course for aspiring business professionals, economists, and policymakers.

While it has strengths in providing a comprehensive foundation and fostering analytical skills, recognizing its limitations such as reliance on simplified models and assumptions is crucial. Incorporating contemporary topics, real-world case studies, and interactive learning methods can further enhance the course's relevance and effectiveness.

Overall, mastering microeconomics at the undergraduate level equips students with a nuanced understanding of market mechanisms, consumer and producer behavior, and the various factors influencing economic decisions. This knowledge not only aids academic success but also prepares students to navigate and analyze the complex economic landscape of the modern world confidently.

Question Answer What is microeconomics and why is it important for B.Com students? Microeconomics is the branch of economics that studies individual economic units such as households and firms, focusing on supply and demand, price determination, and resource allocation. For B.Com students, understanding microeconomics helps in analyzing business decisions, market behavior, and economic policies effectively. What are the basic principles of microeconomics covered in 1st B.Com? The basic principles include the concept of demand and supply, elasticity, consumer behavior, production and costs, and market equilibrium. These principles form the foundation for understanding how markets operate at an individual level. How does demand elasticity impact business pricing strategies? Demand elasticity measures how

sensitive consumers are to price changes. If demand is elastic, a small price change can significantly affect sales. Businesses use this information to set optimal prices to maximize revenue without losing customers. What is the concept of utility in microeconomics? Utility refers to the satisfaction or benefit that consumers derive from consuming goods and services. It helps explain consumer choices and demand behavior in microeconomic analysis. Explain the concept of opportunity cost with an example relevant to B.Com students. Opportunity cost is the value of the next best alternative foregone when making a decision. For example, if a student spends time studying microeconomics instead of working part-time, the opportunity cost is the income they could have earned. What is market equilibrium and how is it achieved? Market equilibrium occurs when the quantity demanded equals the quantity supplied at a certain price. It is achieved through the interaction of buyers and sellers adjusting their behaviors until supply and demand balance. How do firms determine the optimal level of production in microeconomics? Firms determine the optimal level of production by analyzing marginal costs and marginal revenue. They produce where marginal cost equals marginal revenue to maximize profit. What role do consumers and producers play in a microeconomic market? Consumers decide what to buy based on preferences and budgets, influencing demand. Producers decide what and how much to produce based on costs and market prices, influencing supply. Their interactions determine market prices and quantities. Why is the concept of price elasticity of demand crucial for businesses? Price elasticity of demand helps businesses understand how a change in price will affect sales volume and revenue. This knowledge aids in making informed decisions about pricing strategies and market expansion.

Related keywords: microeconomics, B.Com, economic theory, supply and demand, consumer behavior, market structure, price elasticity, consumer choice, cost analysis, market equilibrium

MICRO MICHAEL CRICHTON

micro michael crichton: An In-Depth Exploration of the Miniature Genius

In the realm of science fiction and technological innovation, the name Michael Crichton stands tall as a visionary storyteller and a pioneer in blending science with compelling narratives. However, within this expansive universe lies a fascinating niche?micro Michael Crichton?referring to the miniature or condensed representations of his ideas, works, and influence. This article delves into the concept of micro Michael Crichton, exploring its origins, significance, and the ways it continues to impact science, technology, and popular culture.

Understanding Micro Michael Crichton

What Is Micro Michael Crichton?

Micro Michael Crichton is a term often used to describe the condensed or miniature versions of Crichton's expansive ideas, stories, and technological concepts. It can also refer to simplified summaries, small-scale adaptations, or even the influence of his work in micro-sized formats such as short stories, articles, or digital media.

Key Characteristics of Micro Michael Crichton:

- Concise summaries of his novels and ideas
- Miniature adaptations in media or technology
- Focused exploration of specific themes from his works
- Use of micro-technology or nano-technology inspired by his narratives

Why the Term Matters:

The concept signifies how Crichton's complex ideas can be distilled into bite-sized, accessible forms, making his visionary concepts more approachable for a broader audience.

The Origins of Michael Crichton's Influence

Who Was Michael Crichton?

Michael Crichton (1942-2008) was an American author, screenwriter, and film director renowned for his mastery in crafting science-based thrillers. Some of his most notable works include:

- Jurassic Park
- The Andromeda Strain
- Congo
- Timeline
- Prey

His stories often explore themes such as genetic engineering, artificial intelligence, environmental crises, and the ethical dilemmas surrounding technological advancements.

Crichton's Approach to Science and Technology

Crichton's works are characterized by:

- Rigorous scientific research

- Engaging storytelling
- Ethical considerations of technological progress
- Critical examination of scientific hubris

This approach has cemented his reputation as a writer who not only entertains but also educates and warns about potential futures.

The Concept of Micro in Crichton's Works

Micro-Scale Technologies in Crichton's Narratives

Crichton's stories often incorporate micro-technology elements, such as:

- Nanotechnology (e.g., *Prey*)
- Miniaturized robots and devices
- Genetic manipulation at the micro-level
- Microbiological threats

Examples:

- *Prey* features nanobots that can self-replicate and cause chaos.
- *The Andromeda Strain* explores microscopic extraterrestrial viruses threatening humanity.

The Idea of Micro in Scientific Innovation

Crichton's work reflects a fascination with how tiny technologies can have outsized impacts, emphasizing:

- The power of micro-scale devices
- The potential for micro-robots in medicine, industry, and warfare
- Ethical concerns about manipulating life at microscopic levels

Micro Michael Crichton in Popular Culture and Media

Miniature Adaptations of Crichton's Ideas

Many of Crichton's concepts have been adapted or referenced in micro-sized formats:

- Short stories and articles distilling his major themes
- Educational videos explaining micro-technology inspired by his works
- Microfiction and fan-made content inspired by his narratives

Impact on Science and Technology

Crichton's influence extends into micro-scale scientific research, notably:

- Advancements in nanotechnology and micro-robots
- Development of microfluidic devices
- Innovations in targeted drug delivery systems

These innovations echo the micro themes present in his stories, demonstrating how fictional ideas can inspire real-world scientific progress.

The Significance of Micro Michael Crichton Today

Educational and Scientific Value

Crichton's micro-themed concepts serve as educational tools:

- Simplified explanations of complex scientific ideas
- Inspiring future scientists and engineers
- Raising awareness about potential risks and benefits of micro-technology

Ethical and Societal Implications

The micro scale opens questions about:

- Ethical boundaries of genetic and nanotechnologies
- Biosafety and biosecurity
- The societal impact of micro-automations

Crichton's narratives act as cautionary tales, emphasizing the importance of responsible innovation.

Future Directions

The concept of micro Michael Crichton continues to evolve with advancements such as:

- Nanomedicine
- Micro-robotics
- Synthetic biology

These fields embody Crichton's vision of micro-scale impacts shaping the future.

Conclusion: The Enduring Legacy of Micro Michael Crichton

Michael Crichton's work remains profoundly influential, especially as technology pushes further into micro and nano realms. The idea of micro Michael Crichton encapsulates the miniature yet powerful impact of his ideas—how small-scale innovations and narratives can have outsized effects on society and science. As we continue to explore the micro universe, Crichton's visionary stories serve as both inspiration and caution, guiding us through the potential and peril of micro-scale technological revolution.

Further Resources

- Books by Michael Crichton
- Articles on nanotechnology inspired by Crichton's works
- Scientific journals on micro-robotics and nanomedicine
- Documentaries exploring the future of micro-scale technology

Meta Description:

Discover the fascinating world of micro Michael Crichton, exploring how his ideas on micro-technologies, science fiction, and ethical considerations continue to influence modern science and pop culture.

Keywords:

micro Michael Crichton, Michael Crichton, micro-technology, nanotechnology, micro-robots, science fiction, genetic engineering, nanomedicine, ethical technology, micro-scale innovations

Micro Michael Crichton: Exploring the Intersection of Technology, Science, and Thriller Fiction

In the landscape of modern thriller fiction, few authors have managed to blend cutting-edge scientific concepts with compelling storytelling as seamlessly as Micro Michael Crichton. While Michael Crichton himself remains a towering figure in the genre—renowned for classics like *Jurassic Park*, *Sphere*, and *The Andromeda Strain*—the term Micro Michael Crichton has gained traction among readers and critics alike to describe a subset of his work that delves deeply into micro-scale

scientific phenomena, nanotechnology, and the ethical dilemmas surrounding emerging sciences. This guide aims to unpack the significance of Micro Michael Crichton, exploring his thematic motifs, narrative techniques, and the enduring influence of his micro-focused stories on both literature and popular culture.

Understanding the Essence of Micro Michael Crichton

What Does "Micro Michael Crichton" Mean?

The phrase Micro Michael Crichton isn't an official label but a colloquial way to describe stories that:

- Focus on microscopic or nanoscopic scientific phenomena
- Explore the impact of microbes, viruses, or microscopic technology
- Combine rapid-paced thrillers with detailed scientific accuracy
- Engage with ethical, environmental, and societal questions posed by micro-scale science

Crichton's works in this vein tend to highlight the incredible power and potential danger of manipulating life at the smallest scales, often raising alarm about unchecked scientific experimentation and the unforeseen consequences of technological advances.

The Roots of the Micro Focus in Crichton's Work

Crichton's fascination with the micro realm can be traced back to early works like *The Andromeda Strain* (1969), where a deadly extraterrestrial microbe threatens humanity, and *The Terminal Man* (1972), which examines brain implants and the micro-electrical world. Over the years, his storytelling evolved to include nanotechnology, biotech, and synthetic biology, with stories that probe the ethical boundaries of scientific innovation.

Key Themes in Micro Michael Crichton's Works

- Microbial and Viral Threats

Crichton often centers his narratives around microscopic entities—viruses, bacteria, or genetically engineered microbes—that have the potential to cause global crises. These stories serve as cautionary tales about the dangers of biological experimentation.

Examples:

- The Andromeda Strain: A deadly extraterrestrial microbe escapes containment, threatening human extinction.
- Prey: Nanotechnology-based swarms that can adapt and evolve, with potentially catastrophic consequences.

- Nanotechnology and the Power of the Small

Crichton's fascination with nanotech is evident in stories where tiny machinery or particles are capable of extraordinary feats—remaking medicine, creating new materials, or wreaking havoc in unintended ways.

Examples:

- Prey: Swarms of self-replicating nanobots escape control, illustrating both their promise and peril.
- Micro: Although not written by Crichton himself, the term captures a similar micro-focused narrative style, emphasizing the potential and danger of manipulating matter at the smallest scales.

- Ethical and Societal Implications

Crichton's micro-focused stories often question the moral boundaries of scientific research, exploring issues like bioethics, environmental impact, and corporate greed.

Themes include:

- The hubris of scientists playing God
 - Ethical dilemmas of genetic manipulation
 - Consequences of disrupting natural ecosystems at the microbial level
-
- Scientific Realism and Technical Detail

Crichton's background as a trained physician and his meticulous research lend his stories a sense of authenticity. The micro stories are characterized by detailed descriptions of scientific processes, making the fiction feel plausible and urgent.

Narrative Techniques and Style of Micro Michael Crichton

- Fast-Paced, Thriller Format

Crichton's micro stories are often structured as fast-paced thrillers, with a clear narrative arc that builds tension through scientific discovery, escalating crises, and human drama.

- Multi-Character Perspectives

His stories frequently feature multiple viewpoints—scientists, government officials, corporate executives, and civilians—to provide a comprehensive picture of the micro-scientific dilemma.

- Use of Scientific Jargon

While accessible, Crichton employs technical language to lend credibility. This approach allows readers to appreciate the complexity of micro-scale science without feeling overwhelmed.

- Ethical Dilemmas and Moral Questions

Throughout his narratives, Crichton raises questions about responsibility, risk, and the unforeseen consequences of scientific hubris at the micro level.

Notable Works That Exemplify Micro Michael Crichton

Title Focus Area Key Themes		
----- ----- -----		

The Andromeda Strain	Extraterrestrial Microbe	Survival, containment, human vulnerability at the microbial level
Prey	Nanotechnology and self-replicating nanobots	Unintended consequences, AI, and the power of small machines
Sphere	Microbial threats in a mysterious sphere	Alien microbes, psychological tension, and the unknown
The Terminal Man	Brain implants and micro-electrical systems	Mind control, ethics of human augmentation

The Enduring Influence of Micro Michael Crichton

- Inspiration for Scientific and Techno-Thriller Genres

Crichton's micro-focused stories set a standard for blending scientific accuracy with gripping narratives, inspiring countless authors and filmmakers.

- Impact on Popular Culture

Films like Jurassic Park, Sphere, and Prey have brought micro-level scientific threats into mainstream consciousness, influencing public perception of emerging technologies.

- Ethical Discourse and Scientific Responsibility

His stories have prompted conversations about the moral responsibilities of scientists and policymakers, especially as we venture further into nanotech and synthetic biology.

Future Outlook: The Micro World and Its Fictional Portrayal

As science advances—particularly in nanotechnology, microbiome research, and synthetic biology—the themes explored by Micro Michael Crichton remain highly relevant. The micro realm offers both incredible opportunities and significant risks, making it fertile ground for future fiction that continues to challenge our understanding of life, technology, and ethics.

Final Thoughts

The term Micro Michael Crichton encapsulates a fascinating subset of science fiction that zeroes in on the tiny, often invisible worlds that underpin our reality. Through his meticulous research, fast-paced storytelling, and ethical questioning, Crichton has crafted stories that serve as modern parables about the power—and peril—of micro-scale science. Whether tackling microbial outbreaks, nanotech disasters, or brain implants, his micro stories continue to resonate, reminding us of the profound implications hidden within the smallest dimensions of our universe.

Question Who is Micro in Michael Crichton's novel 'Micro' and what is the story about? **Answer** Micro is a character in Michael Crichton's novel 'Micro,' which follows a group of students who are miniaturized and sent into a dangerous jungle environment to uncover illegal bioengineering activities. What are the main themes explored in Michael Crichton's 'Micro'? The novel explores themes such as ethical implications of genetic engineering, the dangers of scientific experimentation

without oversight, environmental conservation, and survival in extreme conditions. How does Michael Crichton depict the technology used for miniaturization in 'Micro'? Crichton presents miniaturization as advanced but speculative technology, highlighting its potential and risks, while integrating it into the thriller narrative to create suspense and explore scientific possibilities. Is 'Micro' connected to any of Michael Crichton's other works or series? While 'Micro' is a standalone novel, it shares thematic elements with Crichton's other works, such as scientific innovation, ethical dilemmas, and environmental concerns, but it is not directly connected to his other series. What is the significance of the title 'Micro' in Michael Crichton's novel? The title 'Micro' signifies the central concept of miniaturization, as characters are shrunk to microscopic size, which is crucial to the plot and themes of the novel. Has 'Micro' by Michael Crichton been adapted into other media, such as film or television? As of October 2023, 'Micro' has not been officially adapted into a film or television series, though there have been discussions and interest in adapting Crichton's works into visual media.

Related keywords: micro, Michael Crichton, science fiction, techno-thriller, Jurassic Park, medical fiction, biotechnology, digital, innovation, suspense

Read the full article online: [MICRO MICHAEL CRICHTON](#)